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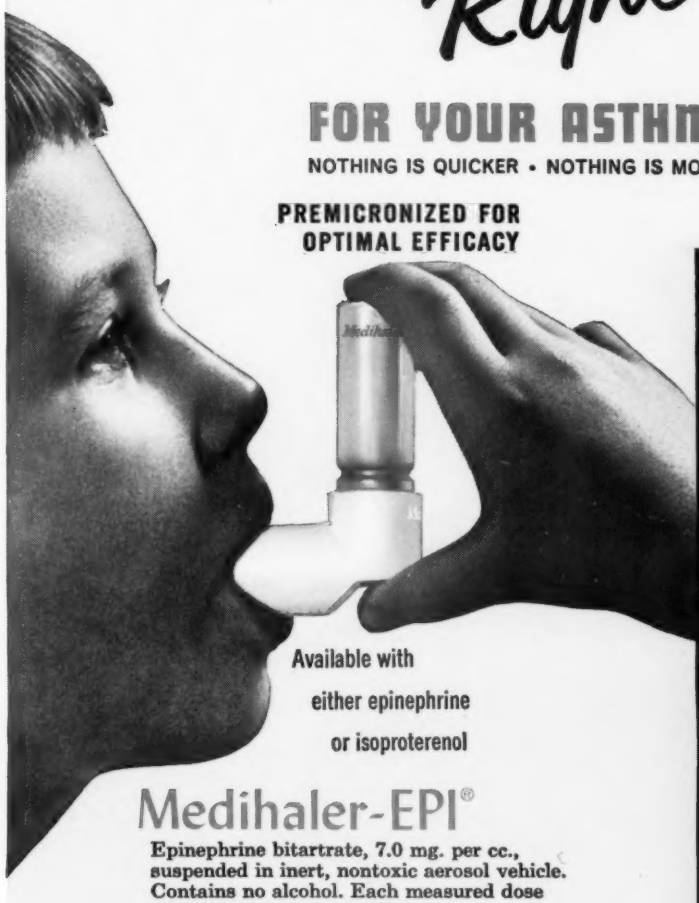

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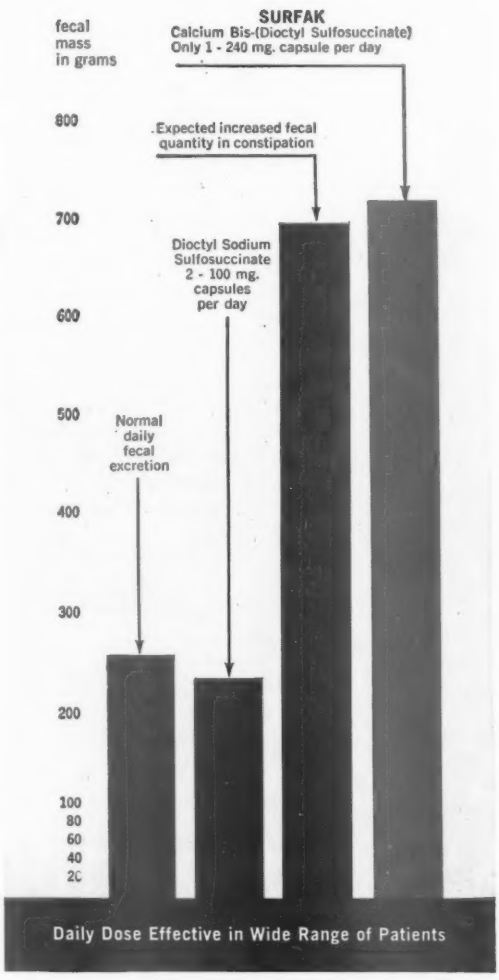


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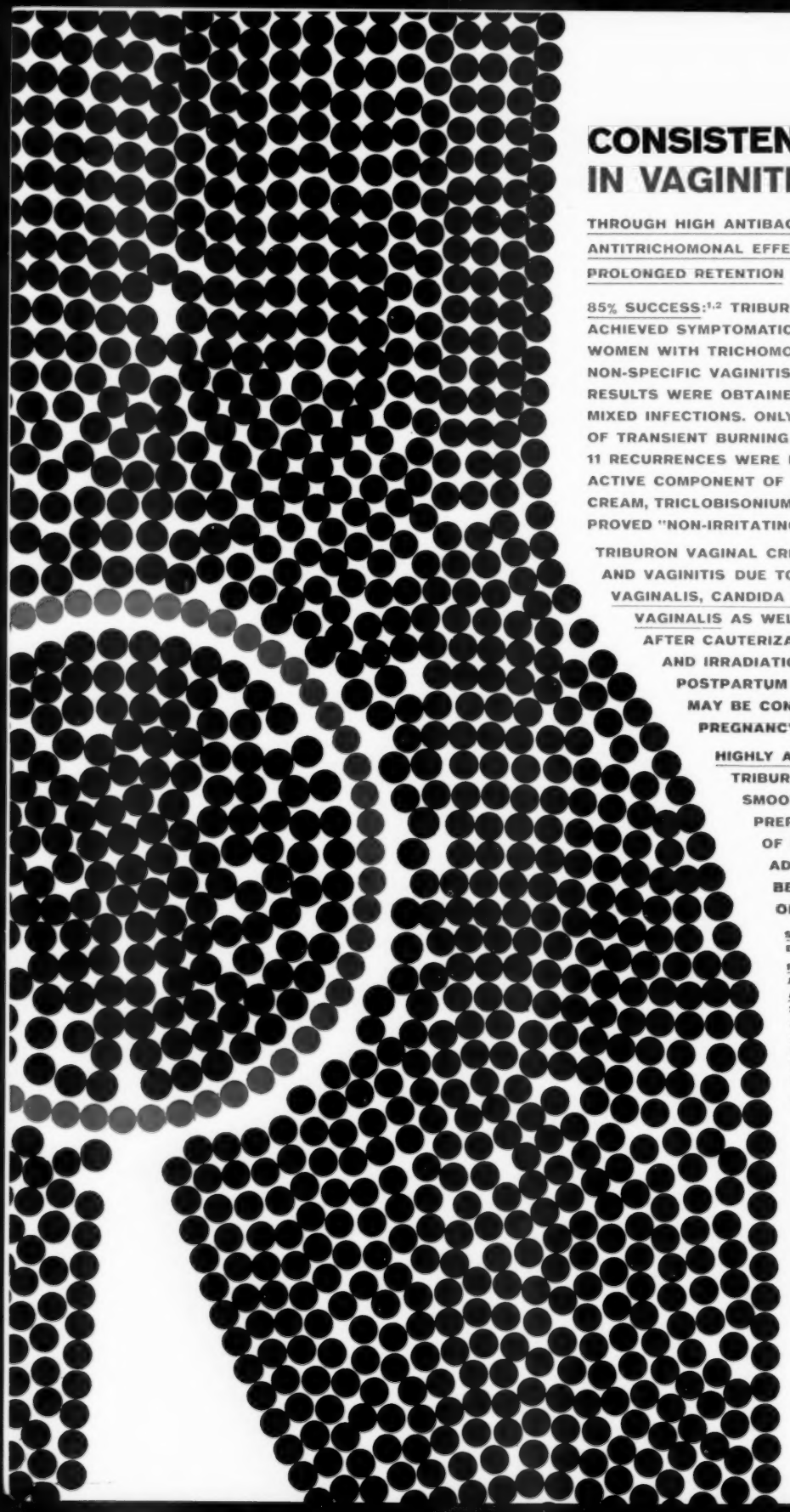

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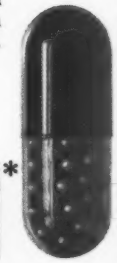

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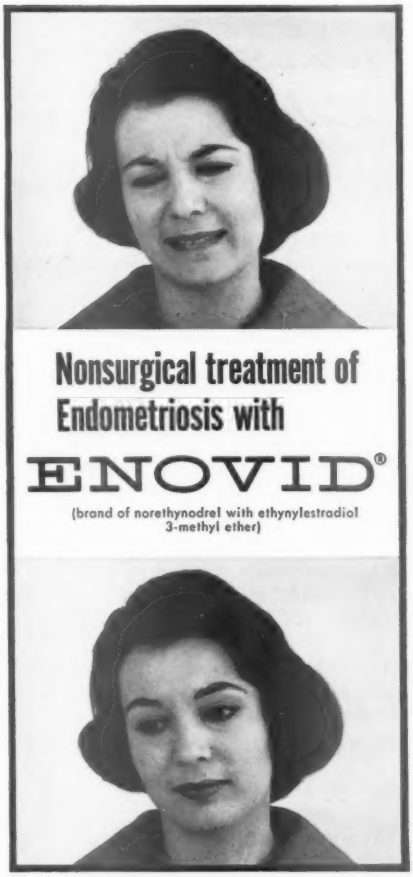
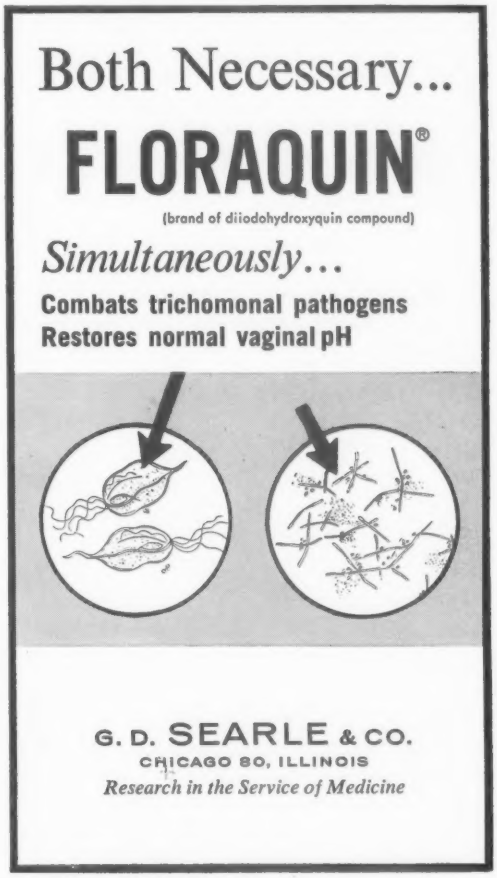
1. Friend, D. G.: Current Drug Therapy: The Phenothiazines; Clin. Pharm. & Therap. 1:5 (Jan.) 1960. 2. Kistner, R. W.: Endometriosis and Infertility, Clin. Obst. & Gynec. 2:877 (Sept.) 1959. 3. Wilson, L. A., Trichomonas Vaginalis Vaginitis, in Conn, H. F.: Current Therapy—1960, Philadelphia, W. B. Saunders Company, 1960, p. 657. 4. Kupperman, H. S., The Choice of Drugs in Endocrine Dysfunction, in Modell, W.: Drugs of Choice 1960-1961, St. Louis, The C. V. Mosby Company, 1960, p. 584. 5. Goldfarb, A. F., and Napp, E. E.: Use of Methallenestril (Vallestril) in Control of Menopausal Symptoms, J.A.M.A. 161:616 (June 16) 1956.





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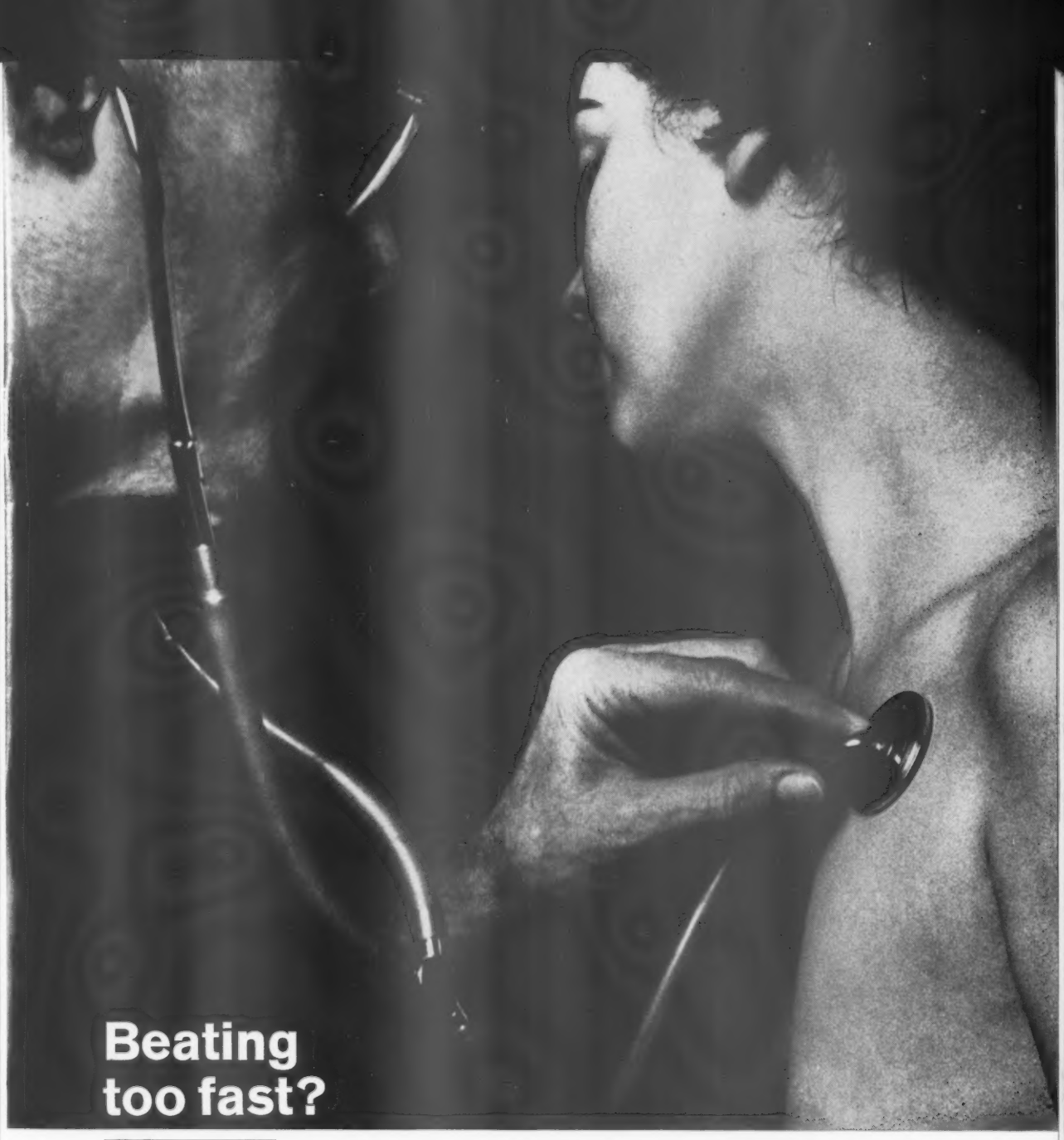

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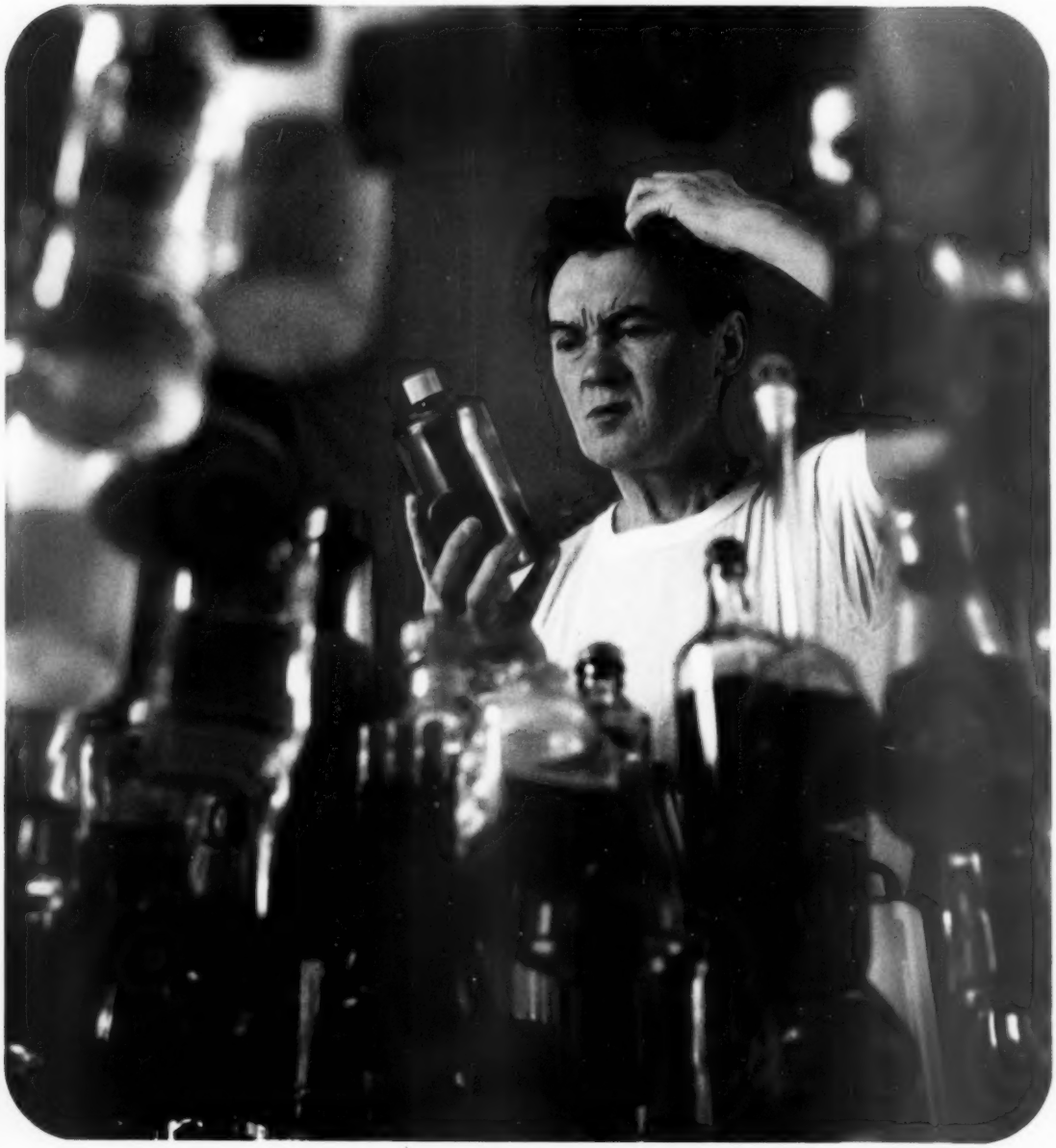

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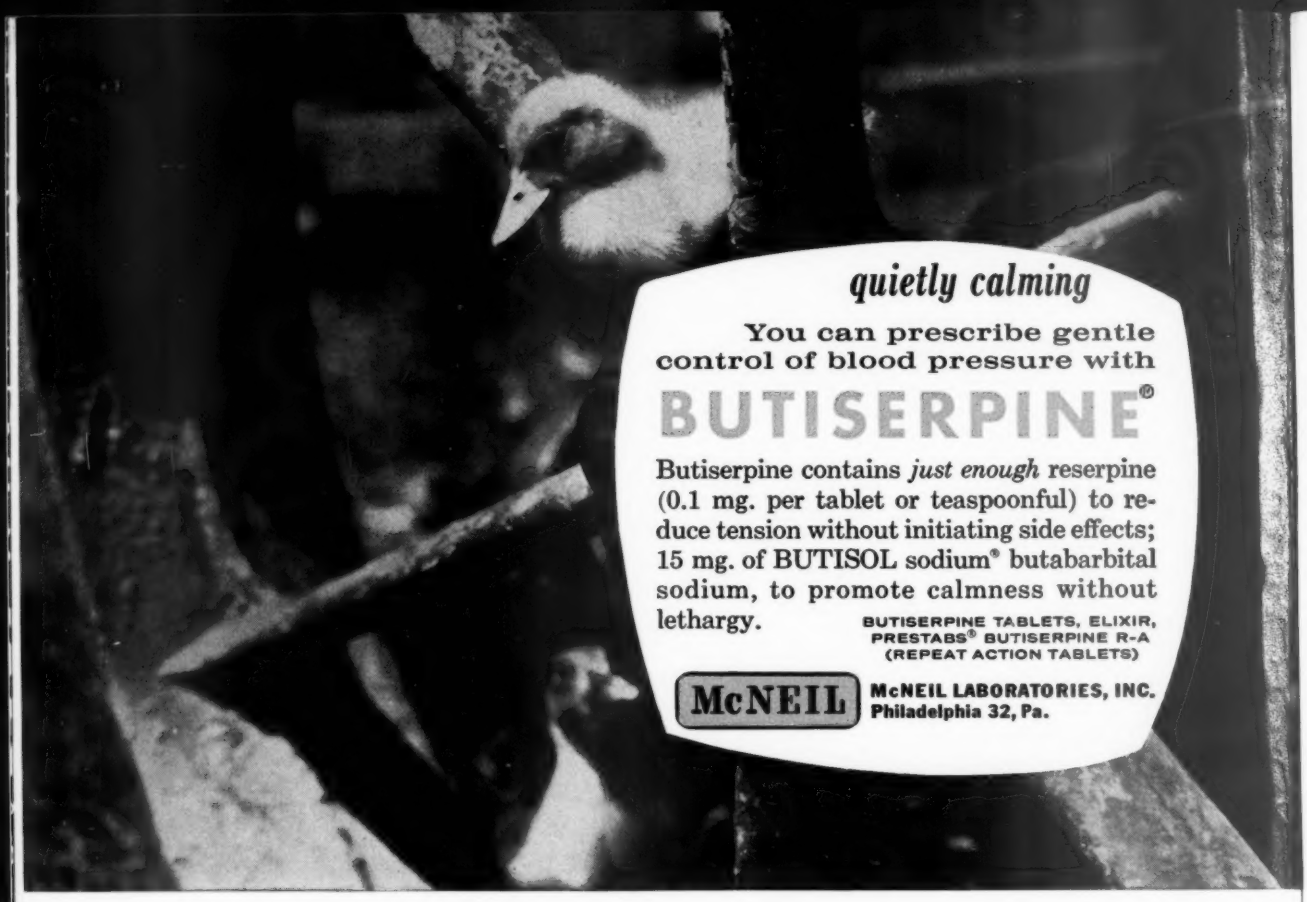
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—Landman, M. E., Preisig, R., and Perlman, M.: J. M. Soc. New Jersey *55*:55 (Feb.) 1958.

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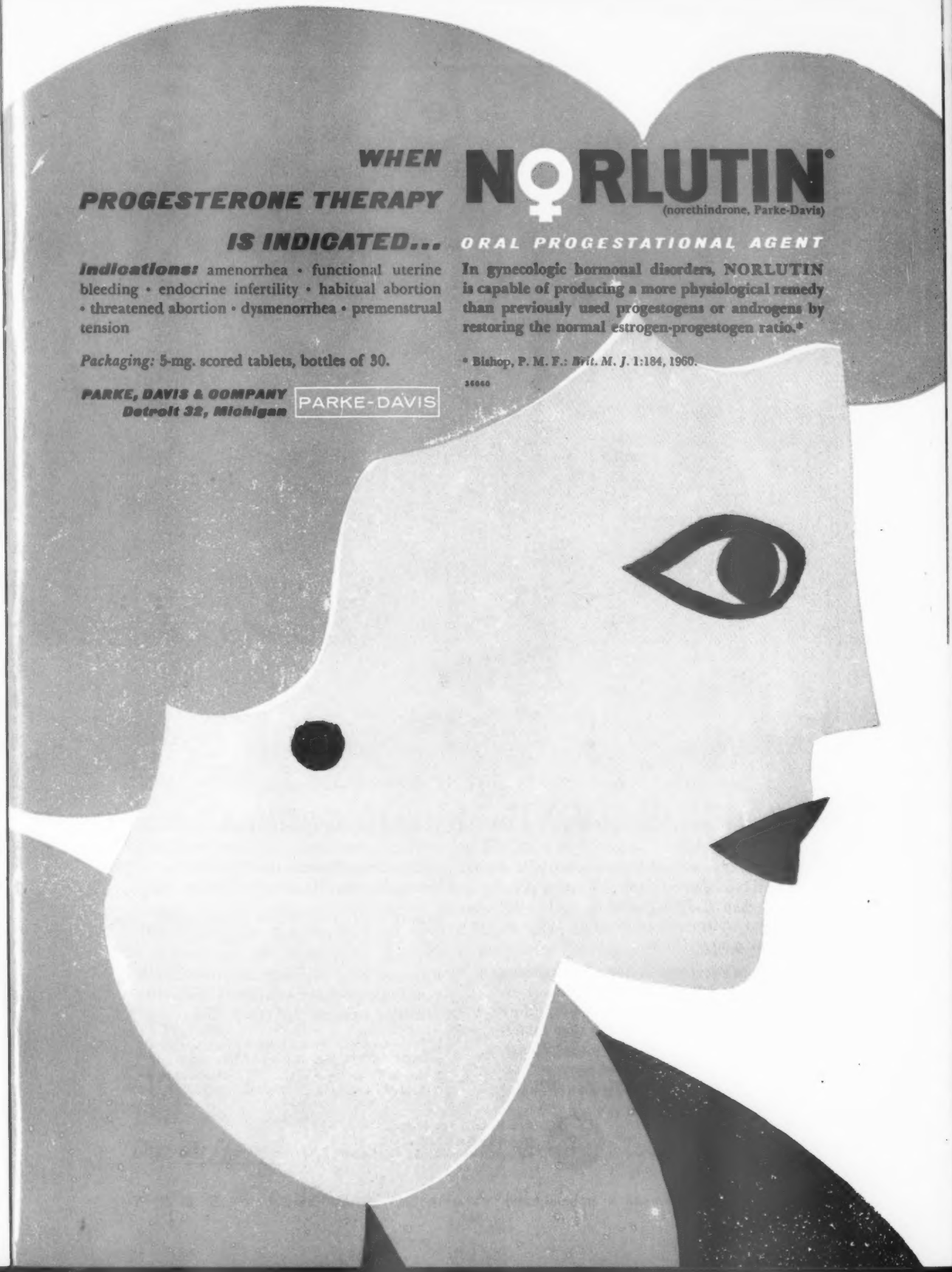
*(Continued on page 796)*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* Bishop, P. M. F.: Brit. M. J. 1:184, 1960.
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1. Projection from Vital Statistics, U.S. Government Dept. HEW, Vol. 48, No. 14, 1958, p. 398.
2. Modell, W.: Drugs of Choice 1958-1959, St. Louis, C. V. Mosby Company, 1958, p. 347.

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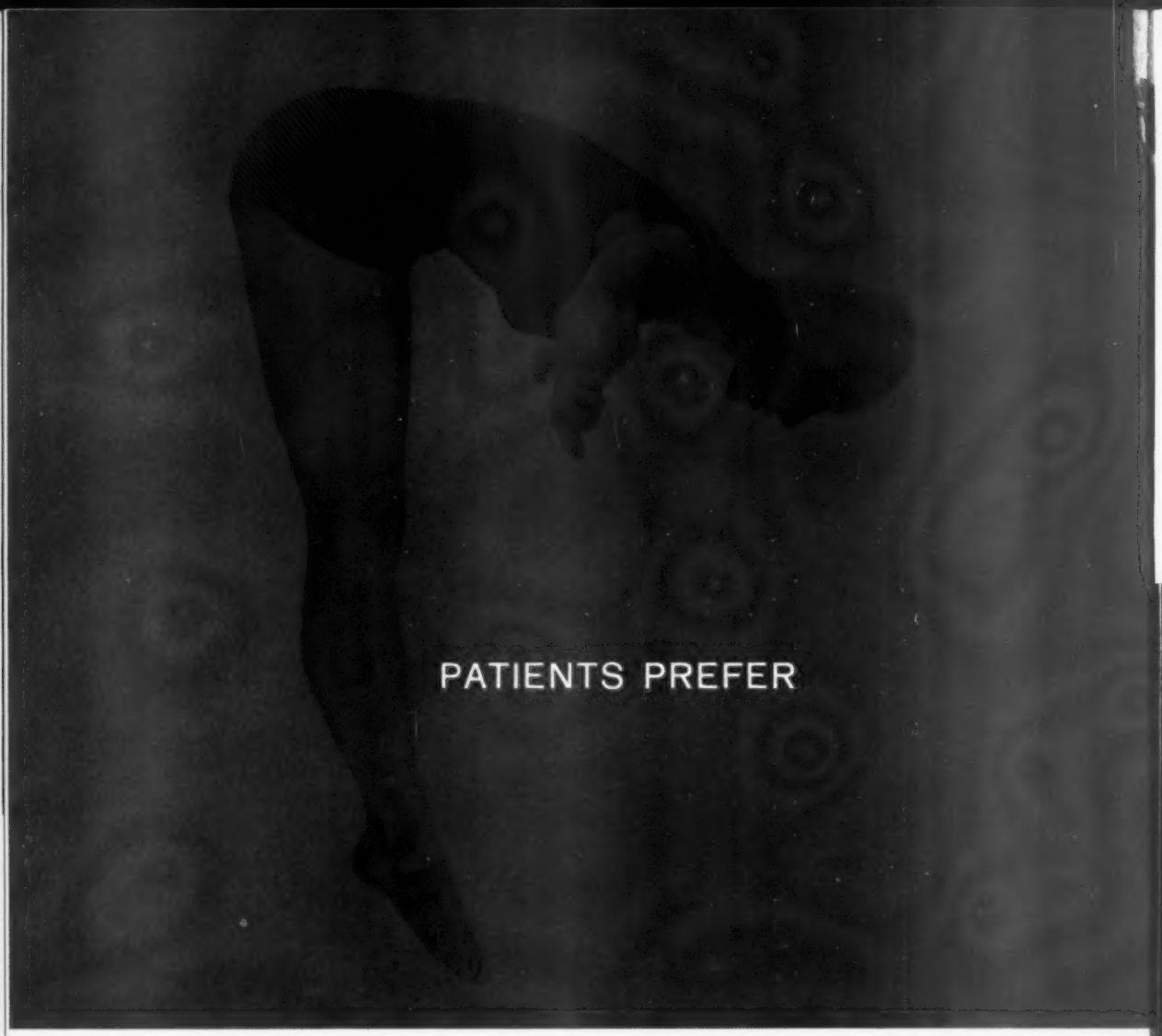


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1. Goddard, E.S.: in *Trifluoperazine, Further Clinical and Laboratory Studies*, Philadelphia, Lea & Febiger, 1959.

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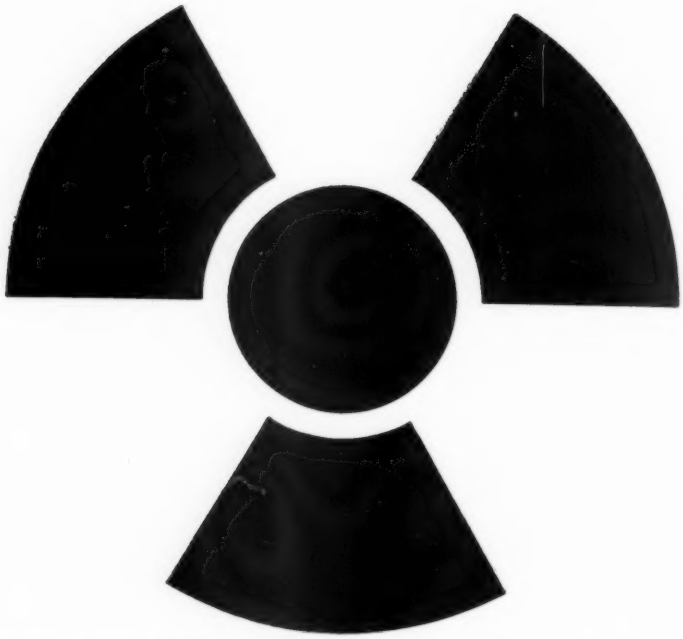

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Journal of the
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Volume 15 August, 1960 Number 8

# Effects of Triiodothyronine on Renal Function in Patients with Cirrhosis of the Liver*

Herbert Gershberg, M.D., Daniel R. Shields, M.D., Stephen H. Leslie, M.D., and Elaine P. Ralli, M.D.

THE OCCURRENCE OF MALNUTRITION and protein deficiency in patients with cirrhosis of the liver is clinically obvious and is reflected in the abnormal serum protein levels observed in these patients.[1,2] Both malnutrition and protein deficiency will depress the trophic hormones of the pituitary and result in hypofunction of the endocrine glands that depend on the pituitary hormones for their stimulus. For example, chronic inanition in rats causes adrenal, thyroid, and gonad deficiency similar to that reported after hypophysectomy.[3] Also, in rats, a low-protein diet produces adrenal insufficiency due to a deficiency of adrenocorticotropin, which is corrected by the injection of ACTH.[4]

There is considerable evidence that malnutrition in man affects the endocrine system. For example, in a group of male volunteers who were chronically underfed, hypofunction

*This research was aided by a grant from the Smith Kline & French Laboratories. A preliminary abstract of these studies was presented at the Eightieth Meeting of the American Physiological Society, Philadelphia, in 1958 (Shields, D. R.; Leslie, S. H., and Gershberg, H.: Renal function and electrolyte excretion in patients with cirrhosis of the liver, Fed. Proc. 17:149, 1958).

*Dr. Gershberg is Assistant Professor of Medicine, New York University College of Medicine, and Assistant Visiting Physician, Bellevue Hospital, New York City.*

*Dr. Shields is a U.S. Public Health Service Trainee Fellow.*

*Dr. Leslie is Assistant Professor of Clinical Medicine, New York University College of Medicine, and Assistant Visiting Physician, Bellevue Hospital.*

*Dr. Ralli is Associate Professor of Medicine, New York University College of Medicine, and Visiting Physician, 3rd Medical Division, Bellevue Hospital. She is a past president of Branch Fourteen.*

TABLE I

*Serum Protein Levels, Renal Function Tests, and Electrolyte Excretion in Patients with Cirrhosis of the Liver Prior to Therapy*

| Case No. | Age, Yr. | Sex | Ascites | GFR,* cc./Min. | RPF, cc./Min. | Urine Flow, cc./Min. | Excretion, mEq./Min. | | Urine Na/K | % Na Reabsorption | Total Protein, Gm./100 cc. | Albumin, Gm./100 cc. | Globulin, Gm./100 cc. | | | Plasma, mEq./L. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Na | K | | | | | $\alpha$ | $\beta$ | $\gamma$ | Na | K |
| 1 | 47 | F | +++ | 71 | 450 | 0.85 | .003 | .042 | 0.07 | 100.0 | 7.9 | 2.8 | 0.82 | 0.90 | 3.4 | 141 | 3.20 |
| 2 | 46 | M | +++ | 77 | 359 | 0.94 | .001 | .056 | 0.02 | 100.0 | 5.4 | 1.7 | 1.20 | 0.92 | 1.6 | 138 | 4.50 |
| 3 | 35 | F | None | 81 | 600 | 5.50 | .130 | .135 | 0.96 | 98.7 | 8.1 | 2.5 | 0.23 | 0.63 | 4.7 | 133 | 5.20 |
| 4 | 68 | M | +++ | 40 | 313 | 1.04 | .001 | .095 | 0.01 | 100.0 | 6.5 | 2.5 | 1.20 | 0.71 | 2.1 | 139 | 4.98 |
| 5 | 35 | F | +++ | 72 | 395 | 0.50 | .003 | .032 | 0.10 | 100.0 | 7.3 | 1.3 | 1.10 | 0.81 | 4.0 | 128 | 3.83 |
| 6 | 49 | M | +++ | 43 | 212 | 2.90 | .004 | .091 | 0.04 | 99.9 | 6.6 | 2.1 | 0.92 | 1.70 | 1.9 | 139 | 4.50 |
| 7 | 49 | M | None | 143 | 618 | 1.00 | .098 | .057 | 1.70 | 99.5 | 9.1 | 3.1 | 0.64 | 1.32 | 4.0 | 131 | 4.70 |
| 8† | 38 | F | +++ | 9 | 145 | 1.23 | .053 | .079 | 0.67 | 95.0 | 6.3 | 1.8 | 1.40 | 0.75 | 2.3 | 135 | 3.20 |
| 9 | 57 | F | +++ | 36 | 815 | 0.60 | .014 | .072 | 0.20 | 99.7 | 7.7 | 3.1 | 1.20 | 1.30 | 2.1 | 136 | 3.80 |
| 10 | 54 | M | + | 130 | 658 | 1.01 | .099 | .110 | 0.90 | 99.4 | 6.7 | 1.8 | 1.60 | 0.52 | 2.8 | 136 | 4.40 |
| 11 | 52 | M | + | 133 | 752 | 1.00 | .052 | .060 | 0.87 | 99.7 | 7.2 | 1.9 | 1.20 | 0.93 | 3.2 | 140 | 4.30 |
| 12 | 37 | M | +++ | 101 | 1,035 | 3.00 | .002 | .152 | 0.01 | 100.0 | 8.2 | 2.7 | 1.10 | 1.10 | 3.4 | 122 | 6.00 |
| 13 | 42 | M | ++ | 110 | 549 | 0.80 | .034 | .047 | 0.72 | 99.8 | 6.3 | 1.9 | 0.82 | 1.33 | 2.3 | 133 | 4.03 |
| 14 | 48 | M | ++++ | 112 | 535 | 0.52 | .002 | .048 | 0.04 | 100.0 | 7.4 | 2.8 | 0.69 | 1.46 | 2.4 | 130 | 5.08 |
| 15 | 42 | M | None | 113 | 611 | 1.30 | .156 | .131 | 1.19 | 99.0 | 7.4 | 3.9 | 0.78 | 0.59 | 2.2 | 140 | 4.73 |

* All values for renal functions and electrolyte excretion are the average of three 15 minute periods.
† This patient had chronic pyelonephritis in addition to cirrhosis.

of the pituitary with thyroid and adrenal insufficiency was observed.[5] Impaired thyroid, adrenal, and sexual function was found in a group of Mexicans suffering from chronic malnutrition.[6] There have been many reports of endocrine disturbances in patients with cirrhosis of the liver and among these are cited disturbances of thyroid function.[7] Villaret and coworkers[8] emphasized the frequency of hypothyroidism in these patients. Dubarry and Rivière[9] described involution of the testicles, ovaries, and thyroid in cirrhotic patients. There is also the well-known fact that both cirrhotic patients[10] and patients with myxedema have a decreased capacity to handle a water load.[11] Furthermore, the thyroid hormone may act as a diuretic under certain conditions.[12]

Because of the antidiuresis present in patients with cirrhosis we have studied the effect of triiodothyronine($T_3$) on water and salt metabolism and on renal function in patients with this disease.

## MATERIALS AND METHODS

The subjects were 15 patients with cirrhosis of the liver, with varying degrees of ascites. The severity of the malnutrition is reflected in the abnormal serum protein levels (table I). In only 3 of the 15 patients were the albumin levels above 3.1 Gm. per 100 cc. In 13 patients the albumin level varied from 1.3 to 2.8 Gm. per 100 cc. The patients were maintained on a diet containing approximately 500 mg. sodium and a moderate amount of protein (60 to 80 Gm.) a day.

The experiments were performed in the morning after an overnight fast. Water was allowed until the morning of the experiment. For measurement of glomerular filtration rate (GFR) and effective renal plasma flow (RPF), a solution of inulin and sodium p-aminohippurate was infused intravenously with a constant rate infusion pump. Urine specimens were collected by means of an indwelling catheter with the aid of water and air washouts.

The ascites was graded as 1 to 4+. Patients who had 3 or 4+ ascites had required repeated paracenteses. Those with 1 or 2+ ascites had demonstrable fluid in the abdominal cavity but had not required paracenteses.

Triiodothyronine was given orally in a daily dose of 200 to 300 mcg. divided into three doses. In experiments involving intravenous administration of the hormone, three 15-minute-period specimens were collected as controls, the triiodothyronine (800 to 1,000 mcg. in 5 cc. water adjusted to a *p*H of 8 to 8.5) was injected in 4 to 5 minutes, and the experiment was continued for 90 to 120 minutes. In other experiments, aldosterone was injected intravenously in doses of 500 mcg. in 2 cc. physiological saline solution during a period of four to five minutes.

Inulin and sodium *p*-aminohippurate values were determined by the methods of Schreiner[13] and Smith and coworkers,[14] respectively, inorganic phosphate values by the Fiske and Subbarow method,[15] sodium and potassium values by a flame photometer, and serum protein levels by paper electrophoresis. Since most of the patients had edema and ascites, the values for filtration rate and renal plasma flow are uncorrected for surface area.

## RESULTS

*Control Values.* The control observations prior to therapy on the 15 patients studied are listed in table I. Of the 5 patients without ascites (cases 3, 7, and 15), or with a minimal amount (cases 10 and 11), the filtration rate was above 100 cc. per minute in 4. Although the filtration rate was generally decreased in the 10 patients with severe ascites, the values were normal in 2 cases. The renal plasma flow was normal or elevated in patients with minimal ascites and decreased in patients with marked ascites. However, 3 patients with marked ascites (cases 9, 12, and 14) had values of 815, 1,035, and 535 cc. per minute respectively.

The urine flow measured during the tests had no relationship to the degree of ascites; 2 patients (cases 6 and 12) had urine flows of 2.9 and 3 cc. per minute, which exceeded the urine flow of most of the patients with minimal ascites.

The sodium excretion was inversely related to the degree of ascites. It was diminished in all patients with severe ascites and averaged 0.002 mEq. per minute. The urinary sodium-potassium ratio was also inversely related to the ascites, ranging between 0.01 and 0.20 mEq. in the severe cases.

Sodium reabsorption, calculated as a percentage of the filtered load, increased with the ascites. It varied between 99.7 and 100 per cent in the severe cases.

Phosphorus metabolism appears to be influenced by the thyroid hormone. In the 5

TABLE II

*Effect of Triiodothyronine Administered Orally on Renal Function and Electrolyte Excretion in Patients with Ascites*

| Case No. | Treatment | Wt., lb. | GFR, cc./Min. | RPF, cc./Min. | Urine Flow, cc./Min. | Excretion, mEq./Min. | | Urine Na/K | % Na Reabsorption | Plasma, mEq./L. | | Plasma P, mg./100 cc. | P Excretion, mg./Min. | % P Reabsorption |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Na | K | | | Na | K | | | |
| 1 | None, | | 74 | 463 | 0.7 | 0.004 | 0.046 | 0.09 | 100.0 | 141 | 3.2 | 2.70 | 0.257 | 87 |
| | $T_3$, 300γ/day for 64 days | | 52 | 586 | 0.5 | 0.054 | 0.035 | 1.54 | 99.3 | 142 | 4.5 | 5.30 | 0.385 | 86 |
| 2 | $T_3$, 200γ/day, | | 133 | 529 | 0.9 | 0.002 | 0.068 | 0.03 | 100.0 | 133 | — | 3.70 | 0.290 | 94 |
| | No $T_3$ for 10 days, on regular diet | | 77 | 359 | 0.4 | 0.005 | 0.056 | 0.09 | 100.0 | 138 | 4.5 | 4.25 | 0.580 | 83 |
| 4 | None, | | 47 | 309 | 0.9 | 0.004 | 0.096 | 0.04 | 100.0 | 139 | 5.0 | — | — | — |
| | $T_3$, 200γ/day for 3 days, | | 65 | 392 | 0.8 | 0.002 | 0.072 | 0.03 | 100.0 | 137 | 4.2 | — | — | — |
| | $T_3$, 200γ/day for 46 days | | 63 | 461 | 0.6 | 0.003 | 0.066 | 0.05 | 100.0 | 137 | 5.1 | — | — | — |
| 5 | None, | 116 | 77 | 398 | 0.5 | 0.003 | 0.032 | 0.09 | 100.0 | 128 | 3.8 | 3.75 | 0.365 | 88 |
| | $T_3$, 200γ/day for 12 days | 124 | 75 | 441 | 0.8 | 0.002 | 0.047 | 0.04 | 100.0 | 127 | 4.5 | 4.60 | 0.511 | 85 |
| 6 | None, | | 72 | 193 | 3.5 | 0.004 | 0.090 | 0.04 | 100.0 | 139 | 4.5 | 3.40 | 0.742 | 85 |
| | $T_3$, 300γ/day for 8 days, | | 66 | 444 | 0.6 | 0.003 | 0.064 | 0.05 | 99.7 | 142 | 4.2 | 3.75 | 0.505 | 80 |
| | $T_3$, 200γ/day for 33 days | | 80 | 541 | 1.0 | 0.048 | 0.048 | 1.00 | 99.6 | 144 | 3.2 | 4.75 | 0.872 | 77 |
| | (Acetazolamide for 5 days) | | | | | | | | | | | | | |
| 8* | None, | | 9 | 149 | 1.2 | 0.051 | 0.076 | 0.67 | 96.0 | 135 | 3.2 | — | — | — |
| | $T_3$, 200γ/day for 5 days | | 14 | 185 | 0.4 | 0.001 | 0.032 | 0.03 | 100.0 | 135 | 4.2 | — | — | — |
| 10 | None, | 135 | 130 | 658 | 0.9 | 0.089 | 0.103 | 0.86 | 99.5 | 136 | 4.4 | 5.40 | 0.527 | 93 |
| | $T_3$, 300γ/day † for 6 days | 132 | 128 | 727 | 0.6 | 0.002 | 0.072 | 0.03 | 100.0 | 139 | 4.4 | 5.15 | 0.191 | 97 |
| 12 | None, | | 105 | 1,025 | 2.2 | 0.002 | 0.154 | 0.01 | 100.0 | 122 | 6.0 | — | — | — |
| | $T_3$, 300γ/day for 4 days | | 101 | 1,209 | 1.1 | 0.003 | 0.137 | 0.02 | 100.0 | 135 | 5.0 | 5.30 | 0.493 | 91 |

* This patient had chronic pyelonephritis and ascites; she had received meralluride the day before the experiment.
† Patient was perspiring profusely due to the heat.

cases in which this was studied before and after the oral administration of the drug, the changes were variable. The plasma phosphorus level increased in 4 of these patients—from 2.70 to 5.30 mg.; from 3.70 to 4.25 mg.; from 3.75 to 4.60 mg.; and from 3.40 to 4.75 mg. per 100 cc. This increase appeared to vary with the duration of treatment. In 1 patient treated for only six days, the plasma phosphorus level did not change. Phosphorus excretion increased in 4 of these cases. Phosphorus reabsorption, measured as a percentage of the filtered load, decreased in 2 of these cases from levels of 94 to 83 per cent, and from 85 to 77 per cent, and was unchanged in the other cases. In 3 cases studied after intravenous injection of triiodothyronine, phosphorus reabsorption decreased significantly in 1 patient from a level of 90 to 76 per cent and remained unchanged in the other 2 subjects during the two hours after injection.

*Effects of Triiodothyronine Orally on Renal Functions and Electrolyte Excretion.* Eight patients with ascites were studied before and at varying intervals after administration of triiodothyronine (table II). Two hundred to 300 mcg. of the hormone was given daily in divided doses. The most consistent change found was an increase in renal plasma flow. The increase ranged from 11 to 173 per cent and occurred as early as three days after therapy (case 4). The filtration rate did not change significantly.

The effects of the hormone on electrolyte excretion varied. In 2 cases (cases 1 and 6) sodium excretion increased and sodium reabsorption decreased appreciably after 64 and 33 days of treatment respectively. In the latter case, eight days of treatment increased the

TABLE III

*Response to Meralluride Before and After Treatment with Triiodothyronine*

| Case No. | Treatment | Time in Min. After Injection of 2 cc. Meralluride I.V. | GFR, cc./Min. | RPF, cc./Min. | Urine Flow, cc./Min. | Excretion, mEq./Min. | | Plasma, mEq./L. | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Na | K | Na | K |
| 12 | None | Control | 105 | 1,025 | 2.2 | 0.002 | 0.154 | 122 | 6.0 |
| | | 15 | 113 | 1,050 | 3.3 | 0.002 | 0.161 | | |
| | | 32 | 113 | 980 | 4.1 | 0.002 | 0.186 | | |
| | | 50 | 113 | 980 | 4.1 | 0.002 | 0.171 | 126 | 5.6 |
| | | 66 | 108 | 945 | 3.9 | 0.002 | 0.165 | | |
| | | 78 | 125 | 1,130 | 5.0 | 0.002 | 0.198 | | |
| | $T_3$, 300γ/day for 4 days | Control | 101 | 1,209 | 1.0 | 0.003 | 0.134 | 135 | 5.0 |
| | | 15 | 104 | 1,120 | 1.1 | 0.005 | 0.141 | | |
| | | 37 | 110 | 1,160 | 1.3 | 0.005 | 0.157 | | |
| | | 57 | 107 | 1,070 | 1.5 | 0.008 | 0.188 | 134 | 4.6 |
| | | 76 | 93 | 1,078 | 1.5 | 0.015 | 0.174 | | |
| | | 88 | 102 | 1,090 | 1.8 | 0.022 | 0.189 | | |
| 4 | None | Control | 40 | 309 | 0.9 | 0.004 | 0.096 | 139 | 5.0 |
| | | 15 | 57 | 341 | 1.9 | 0.010 | 0.148 | | |
| | | 36 | 50 | 262 | 1.8 | 0.005 | 0.134 | | |
| | | 58 | 45 | 343 | 1.2 | 0.009 | 0.128 | 135 | 4.8 |
| | | 77 | 45 | 329 | 1.1 | 0.037 | 0.122 | | |
| | $T_3$, 200γ/day for 3 days | Control | 65 | 392 | 0.8 | 0.002 | 0.072 | 137 | 4.2 |
| | | 15 | 65 | 375 | 1.6 | 0.006 | 0.080 | | |
| | | 32 | 68 | 353 | 1.9 | | 0.078 | | |
| | | 51 | 67 | 378 | 1.8 | 0.004 | 0.074 | 138 | |
| | | 71 | 60 | | 1.4 | 0.046 | 0.077 | | |
| | $T_3$, 200γ/day for 46 days | Control | 63 | 461 | 0.5 | 0.003 | 0.066 | 137 | 5.0 |
| | | 28 | 76 | 368 | 0.9 | 0.006 | 0.106 | | |
| | | 47 | 60 | 354 | 1.0 | 0.025 | 0.116 | | |
| | | 62 | 44 | 325 | 2.6 | 0.181 | 0.205 | | |
| | | 81 | 44 | 389 | 3.2 | 0.191 | 0.229 | 138 | 4.4 |
| | | 93 | 30 | 369 | 3.8 | 0.270 | 0.237 | | |

TABLE IV

*Effect of Triiodothyronine Administered Intravenously on Renal Clearances and Electrolyte Excretion in Four Patients with Cirrhosis of the Liver*

| Case No. | Time in Min. After Injection of $T_3$ | GFR, cc./Min. | RPF, cc./Min. | Urine Flow, cc./Min. | Plasma P, mg./100 cc. | Plasma, mEq./L. Na | Plasma, mEq./L. K | P Excretion, mg./Min. | % P Reabsorption | Excretion, mEq./Min. Na | Excretion, mEq./Min. K | Urine Na/K | Blood Volume, cc. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | Control | 115 | 720 | 2.30 | 5.60 | 141 | 4.09 | 0.646 | 90 | 0.054 | 0.071 | 0.76 | |
| | 800γ | | | | | | | | | | | | |
| | 16 | 97 | 720 | 2.50 | | | | 0.758 | | 0.053 | 0.069 | 0.77 | |
| | 33 | 87 | 839 | 3.20 | | | | 0.978 | | 0.091 | 0.089 | 1.02 | |
| | 51 | 82 | 792 | 3.40 | | | | 1.250 | 76 | 0.097 | 0.084 | 1.15 | |
| | 71 | 71 | 842 | 4.00 | 5.50 | 139 | 3.90 | 0.900 | | 0.112 | 0.086 | 1.30 | |
| | 85 | 84 | 818 | 2.90 | | | | 0.920 | | 0.103 | 0.088 | 1.17 | |
| 3 | Control | 57 | 477 | 1.70 | | 136 | 3.79 | | | 0.021 | 0.046 | 0.46 | |
| | 800γ | | | | | | | | | | | | |
| | 21 | 76 | 718 | 0.80 | | | | | | 0.015 | 0.037 | 0.41 | |
| | 45 | 64 | 615 | 1.50 | | | | | | 0.029 | 0.043 | 0.67 | |
| | 58 | 117 | 728 | 3.40 | | 136 | 3.14 | | | 0.060 | 0.068 | 0.88 | |
| | 71 | 84 | 593 | 6.00 | | | | | | 0.086 | 0.052 | 1.65 | |
| | 85 | 45 | 555 | 2.00 | | | | | | 0.076 | 0.061 | 1.25 | |
| 2 | Control | 111 | 500 | 1.10 | 3.65 | 147 | 3.80 | 0.632 | 85 | 0.062 | 0.037 | 1.41 | 8,250 |
| | 1,000γ | | | | | | | | | | | | |
| | 17 | 85 | 410 | 1.70 | | | | 0.597 | | 0.068 | 0.039 | 1.74 | |
| | 37 | 80 | 388 | 0.90 | 3.60 | 144 | 3.90 | 0.596 | | 0.056 | 0.042 | 1.33 | |
| | 56 | 97 | 435 | 0.70 | | | | 0.717 | | 0.072 | 0.040 | 1.80 | |
| | 73 | 96 | 394 | 0.70 | | 138 | 3.70 | 0.598 | 81 | 0.076 | 0.036 | 2.11 | |
| | 91 | 106 | 461 | 0.90 | | 138 | 3.50 | 0.678 | | 0.099 | 0.039 | 2.54 | 8,200 after 96″ |
| | 103 | 115 | 520 | 1.10 | 3.60 | 138 | 3.60 | 0.790 | | 0.130 | 0.043 | 3.02 | |
| 13 | Control | 110 | 549 | 0.80 | 4.50 | 133 | 4.03 | 0.220 | 96 | 0.037 | 0.050 | 0.74 | 4,650 |
| | 1,000γ | | | | | | | | | | | | |
| | 26 | 95 | 427 | 0.86 | | 135 | 3.66 | | | 0.044 | 0.049 | 0.90 | |
| | 52 | 125 | 532 | 1.30 | | 135 | 3.75 | | | 0.099 | 0.070 | 1.41 | |
| | 77 | 88 | 462 | 1.40 | | | | 0.208 | 95 | 0.132 | 0.070 | 1.89 | 4,700 after 64″ |
| | 98 | 103 | 706 | 1.70 | 4.50 | 135 | 4.40 | 0.255 | | 0.181 | 0.090 | 2.01 | |
| | 115 | | | 1.40 | | 136 | 4.38 | | | 0.151 | 0.094 | 1.61 | 4,450 after 113″ |

renal plasma flow without increasing sodium excretion. The urinary sodium-potassium ratio increased in both these patients after treatment with the hormone.

Clinically, the rate of accumulation of ascites appeared to be retarded in 5 patients. In 2 of these patients ascites reaccumulated at an accelerated rate when triiodothyronine treatment was stopped.

Two patients (cases 4 and 6) developed

TABLE V

*Effect of Aldosterone and Triiodothyronine on Renal Function and Electrolyte Excretion in a Normal Subject and in Three Cases of Cirrhosis of the Liver*

| Case No. | Time in Min. After Injection | GFR, cc./Min. | RPF, cc./Min. | Urine Flow, cc./Min. | Excretion, mEq./Min. | | Plasma, mEq./L. | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Na | K | Na | K |
| Normal | Control | 134 | 581 | 6.80 | 0.063 | 0.014 | 140 | 4.8 |
| | 500γ aldosterone | | | | | | | |
| | 17 | 123 | 555 | 6.80 | 0.059 | 0.014 | 137 | 4.7 |
| | 44 | 103 | 471 | 3.50 | 0.049 | 0.011 | 137 | 4.9 |
| | 83 | 120 | 498 | 2.40 | 0.044 | 0.017 | | |
| | 98 | 150 | 623 | 2.60 | 0.033 | 0.019 | 137 | 5.2 |
| | 1,000γ $T_3$ | | | | | | | |
| | 123 | 115 | 726 | 2.40 | 0.031 | 0.017 | 137 | 4.8 |
| | 135 | 146 | 786 | 2.30 | 0.040 | 0.018 | 139 | 4.8 |
| | 152 | 148 | 825 | 2.60 | 0.042 | 0.019 | 141 | 4.1 |
| | 172 | 126 | 810 | 2.30 | 0.038 | 0.018 | | |
| 9 (Cirrhosis) | Control | 39 | 815 | 0.65 | 0.019 | 0.075 | | |
| | 500γ aldosterone | | | | | | | |
| | 14 | 33 | 689 | 0.65 | 0.012 | 0.070 | | |
| | 39 | 40 | 673 | 0.64 | 0.008 | 0.069 | | |
| | 64 | 29 | 504 | 0.44 | 0.005 | 0.051 | | |
| | 80 | 37 | 644 | 0.57 | 0.005 | 0.067 | | |
| | 1,000γ $T_3$ | | | | | | | |
| | 102 | 32 | 568 | 0.55 | 0.005 | 0.059 | | |
| | 122 | 36 | 627 | 0.60 | 0.005 | 0.065 | | |
| | 144 | 34 | 560 | 0.55 | 0.005 | 0.057 | | |
| | 161 | 38 | 659 | 0.65 | 0.006 | 0.067 | | |
| | 178 | 28 | 572 | 0.59 | 0.006 | 0.059 | | |
| 15 (Alcoholism with cirrhosis) | Control | 113 | 611 | 1.30 | 0.156 | 0.131 | 140 | 4.7 |
| | 500γ aldosterone | | | | | | | |
| | 9 | 104 | 527 | 1.40 | 0.134 | 0.150 | 138 | 4.7 |
| | 32 | 89 | 447 | 1.20 | 0.105 | 0.133 | | |
| | 52 | 99 | 507 | 1.20 | 0.095 | 0.140 | 140 | 4.5 |
| | 72 | 95 | 440 | 1.00 | 0.058 | 0.127 | 139 | 4.2 |
| | 1,000γ $T_3$ | | | | | | | |
| | 92 | 102 | 450 | 1.00 | 0.055 | 0.137 | 138 | 4.0 |
| | 113 | 95 | 427 | 0.80 | 0.038 | 0.111 | | |
| | 132 | 94 | 427 | 0.80 | 0.043 | 0.122 | 136 | 3.8 |
| | 152 | 87 | 395 | 0.75 | 0.038 | 0.101 | 140 | 3.9 |
| 14 (Cirrhosis with severe ascites) | Control | 111 | 535 | 0.50 | 0.002 | 0.047 | 130 | 5.1 |
| | 1,000γ $T_3$ | | | | | | | |
| | 16 | 117 | 564 | 0.60 | 0.002 | 0.047 | 126 | 5.0 |
| | 36 | 113 | 503 | 0.60 | 0.003 | 0.043 | | |
| | 61 | 104 | 456 | 0.50 | 0.002 | 0.042 | 126 | 5.1 |
| | 78 | 113 | 427 | 0.50 | 0.003 | 0.042 | | |
| | 500γ aldosterone | | | | | | | |
| | 99 | 118 | 438 | 0.60 | 0.002 | 0.044 | 123 | 4.8 |
| | 121 | 95 | 402 | 0.40 | 0.002 | 0.035 | 126 | 4.8 |
| | 142 | 104 | 484 | 0.40 | 0.002 | 0.036 | | |
| | 155 | 97 | 489 | 0.50 | 0.003 | 0.034 | 126 | 4.7 |

tachycardia on 300 mcg. triiodothyronine a day, and the dose was reduced to 200 mcg. daily.

*Effect of Triiodothyronine on the Response to Meralluride (Mercuhydrin) Sodium.* The diuretic response to meralluride, as measured by the weight loss and urine output, was increased by administration of triiodothyronine. In 4 of 6 acute experiments, the natruretic effect of meralluride was enhanced when the patients were treated with triiodothyronine. The results in 2 such experiments are shown in table III. In case 12 triiodothyronine had no effect on urine flow but there was an increase in sodium excretion. In case 4 no effect was observed after 3 days of treatment with triiodothyronine, but after treatment for 46 days both the diuretic and natruretic effects of meralluride were greater.

*Acute Effects of Triiodothyronine Injected Intravenously.* Triiodothyronine was injected intravenously in 4 patients with moderate ascites (table IV). In each case sodium excretion increased within 30 to 75 minutes. The renal plasma flow increased in 3 of the 4 patients studied. Potassium excretion increased slightly in these 3 patients along with the urine flow. The urinary sodium-potassium ratio increased in all 4 patients.

Triiodothyronine injected into a patient with very marked ascites and almost complete sodium retention had no effect on sodium excretion during the 78 minutes that it was measured (table IV).

Triiodothyronine did not affect the circulating blood volume or the heart rate and blood pressure when injected intravenously.

*Acute Effects of Aldosterone and Triiodothyronine When Injected Intravenously (Table V).* The effects of aldosterone given intravenously were studied in 1 normal patient and in 3 with cirrhosis of the liver. In the normal subject and in 2 of the cirrhotic patients, aldosterone in doses of 500 mcg. was given and followed by triiodothyronine in doses of 1,000 mcg. In case 14 triiodothyronine was given first and aldosterone second. In each experiment aldosterone decreased the excretion of sodium within 32 to 69 minutes. The administration of triiodothyronine did not overcome this effect, nor did it increase the minute volume of urine. In case 14, although triiodothyronine was given first, it had no effect on sodium excretion or urine flow. However, the intravenously administered aldosterone did not decrease sodium excretion in this patient. This may have been due to the fact that triiodothyronine was preventing the effect of aldosterone or it may have been due to the fact that, in this patient, excretion of sodium was exceedingly low (0.002 mEq. per minute), which may have been a limiting factor.

## DISCUSSION

One of the consistent findings in patients with cirrhosis of the liver and ascites is the decrease in both urine flow and sodium excretion. Obviously in this disease the kidney tubules are reabsorbing both salt and water to a greater extent than they normally do. When diuresis occurs it is due to the fact that the kidney tubules have regained their ability to handle water and sodium. There have been many explanations offered by various investigators as to why damage to the liver affects the function of the kidney, and it is quite reasonable to think that more than one factor is involved. That the endocrine system suffers in patients with cirrhosis seems evident and one can theorize that certain hormones normally detoxified by the liver are present in larger amounts when the liver is damaged. On this basis, and because of the very striking antidiuretic effect of the urine of patients with cirrhosis of the liver when assayed in both rats and dogs,[2,16] we have suggested that the antidiuretic hormone may be responsible for the increased reabsorption of water and the oliguria that is so characteristic of this disease.[2]

There is evidence that there is antagonism between the thyroid hormone and the antidiuretic hormone. Mahoney and Sheehan[17] showed that thyroidectomy abolished the polyuria in dogs in whom diabetes insipidus had been produced by occlusion of the pituitary stalk and that administration of dessicated thyroid restored this polyuria. Weston and others[18] showed, in normal subjects given large doses of triiodothyronine, that vasopressin (Pitressin) exhibited no antidiuretic effect in these subjects. Rapin[19] reported that dessicated thyroid was associated with diuresis in 5 of 10 patients with cirrhosis and ascites.

It has been found that protein-bound iodine is elevated in patients with cirrhosis; yet, hyperthyroidism does not result and these patients can tolerate very large amounts of triiodothyronine without any symptoms of hyperthyroidism. None of our patients became toxic on 200 mcg. triiodothyronine daily and only 2 patients developed tachycardia on

300 mcg. daily. Shipley and Chudzik[20] reported high values for either thyroidal uptake of radioactive iodine ($I^{131}$) clearance or the conversion ratio in 8 of 36 patients with cirrhosis of the liver, but they comment on the fact that none of these patients showed any evidence of hyperthyroidism and consider that a deficiency of iodine may account for the occurrence of enhanced thyroidal avidity for iodide in some cirrhotic patients. Unfortunately, no data are given on the individual patients to indicate the severity of the disease or the degree of protein malnutrition. Thus it would appear that a functional thyroid deficiency may exist in cirrhotic patients, due possibly to excessive plasma protein binding of the thyroid hormone[21] or to the inability of the protein-depleted tissues to respond to the hormone.[22] The kidney dysfunction present in cirrhotic patients is similar in many respects to that seen in myxedema and may well be due to a relative thyroid deficiency.

The marked reabsorption of sodium in patients with liver disease may result from a disturbance in aldosterone secretion. Triiodothyronine caused increased excretion of sodium when injected intravenously in the patients with moderate ascites (table IV). However, when given after an intravenous dose of aldosterone (table V), it did not increase sodium excretion. In addition, when triiodothyronine was given to a patient with severe ascites (case 14, table V), it had no effect on sodium reabsorption, but a subsequent injection of aldosterone did not further increase sodium reabsorption. The results may be due to the large dose of injected aldosterone (500 mcg.) or to the large amounts of endogenously secreted aldosterone.[23]

Rubini and others[24] reported that phosphorus reabsorption was decreased and that the plasma phosphorus level remained unchanged or fell slightly in normal men given 1 mg. triiodothyronine a day for five days. The differences obtained in our studies may be due to the smaller dose of drug given and to the fact that our patients had liver disease.

Clinically, 5 of the 15 patients appeared improved after therapy with triiodothyronine and the rate of reaccumulation of ascitic fluid was decreased.

In view of these observations we agree with the French investigators that functional thyroid deficiency may be an aggravating factor in the water and salt retention in patients with cirrhosis of the liver. The problem is certainly not a simple one and it is obvious that there are many factors involved in producing salt and water retention in patients with cirrhosis.

## SUMMARY

Studies of renal function were done in 15 patients with severe cirrhosis of the liver and ascites. In addition, during the test, the excretion of sodium and potassium was measured.

The effect of orally administered triiodothyronine on renal function and electrolyte excretion was observed in these patients. The hormone was given in doses of 200 to 300 mcg. daily and the tests were repeated at intervals starting with 4 days after therapy and extending up to 64 days. The excretion of sodium during the test was increased in 1 patient while receiving the hormone orally, and urine flow was increased in another patient. In all of the patients the renal plasma flow was increased and in 5 patients the glomerular filtration rate was increased.

Renal clearances were also done in 4 patients during the intravenous administration of the hormone. The glomerular filtration rate increased promptly in 3 of the 4 patients. Renal plasma flow and sodium excretion increased promptly in all 4 patients, and the urine flow was increased in 3 of the 4 patients.

In 3 patients with cirrhosis and in 1 normal subject, aldosterone in doses of 500 mcg. was injected intravenously before or after the intravenous injection of 1,000 mcg. triidothyronine. In the normal subject, aldosterone decreased the urine flow and sodium excretion after 44 minutes. After injection of triiodothyronine, sodium excretion rose but the urine flow remained depressed. In the patients with cirrhosis, aldosterone decreased sodium excretion to a greater extent than was observed in the normal subject, and the administration of triiodothyronine did not overcome this effect. Urine flow was not decreased by aldosterone administration in these 2 patients. In the patient who received the triiodothyronine first, the administration of aldosterone did not have any effect on sodium excretion or urine flow.

Clinically, 5 of the 15 patients appeared definitely improved after treatment with triiodothyronine, and the rate of reaccumulation of ascitic fluid was decreased. This observation is consistent with the observation of Rapin[19] who found that administration of thyroid caused a diuresis in 5 of 10 patients with cirrhosis of the liver and ascites.

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# Parkinson's Disease: Its Challenge and Outlook

Kate Constable, M.D.

As the prospect for greater longevity increases, the interest of the medical profession becomes more directed toward the challenge of the chronic diseases of middle and older age and their control and amelioration. The syndrome known as Parkinson's disease has become one of the most pressing and difficult problems presented to the medical clinician and neurologist in recent years.

## CLINICAL TYPES

Until the 1920's the syndrome known as paralysis agitans or Parkinson's disease was primarily a disease of older age. Then for a period of 5 to 15 years after the first serious epidemic of encephalitis lethargica in 1918, and milder and sporadic ones in the 1920's, there developed among many younger persons a syndrome somewhat similar to the paralysis agitans of older age. Most of these younger persons had a history of either acute encephalitis or "1918" influenza, which was especially virulent among the young adult population. These postencephalitic patients presented many new and unusual symptoms, such as dystonia, oculomotor crises, diplopia, pupillary changes, and pyramidal tract and autonomic nervous system involvement. The syndrome in these patients was considered to be of postinfectious origin and was labeled "postencephalitic parkinsonism," to differentiate it from the arteriosclerotic form, which is characterized chiefly by either rigidity or tremor, which occurs in patients more than 50 or 60 years of age, and which is accompanied by evidence of advanced changes in the cerebral vessels. This group of older persons had been treated with scopolamine or one of its derivatives.

The challenge of the postencephalitic group led to the founding of the Matheson Commission in 1929, which functioned for 10 years at Columbia University under the direction of Dr. Frederick Tilney and Dr. Josephine Neal. Dr. Neal edited two volumes of the published results of the work of the Commission in testing the use and value of new and synthetic drugs and various types of hyperimmune vaccines and sera. Since the latter part of the 1930's there have been fewer new cases of the postencephalitic or postinfectious type and most of the patients who were seen in early adult life at the onset of their symptoms, and who have survived, are now in their late fifties; many of these have maintained their status for 20 or more years with very little or only slow progression of their disease and are still being followed by neurologists in clinics or in private practice.

However, in the past 25 years a third type of patient has appeared, in an age group that is intermediate between the younger (postencephalitic) group and the older (arteriosclerotic) group. This type has been called "idiopathic." The idiopathic group may have some of the characteristics of the postencephalitic group, such as blepharospasm, diplopia, poor convergence, sialorrhea, or facial weakness. In considering the cause as well as treatment of parkinsonism, these three types should be considered as distinctly different forms of a clinically similar disease.

## RECOGNITION AND DIAGNOSIS

It has been estimated that there are approxi-

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mately a million and a half persons in the United States who are suffering from Parkinson's disease. With the greater awareness by the general population of the importance of early diagnosis and treatment of disease, more patients are presenting themselves in the incipient stages. The history may be of only a few months duration and the symptoms so mild as not to interfere seriously with a patient's normal routine or occupation. The gradual slowing up in physical activities, the diminution of normal associated movements of an arm in walking, some slight changes in facial expression, difficulty in manipulating buttons or in shaving or dressing, and changes in speech or in handwriting may easily be misinterpreted by both family and physician as functional or psychological. Such a patient, still intellectually intact, becomes necessarily depressed and apprehensive over what he considers serious changes in himself, and he may try to conceal these changes from others or be loathe to admit them to himself. The problem of early recognition, therefore, usually falls upon a family physician; his is the responsibility of suspecting the diagnosis and, when the signs are so nonspecific as to make the diagnosis doubtful, of seeking neurological advice.

When such a patient seeks medical care the family physician and the neurological consultant who has made the definitive diagnosis face a very delicately balanced problem, one requiring both tact and sympathetic understanding. One often has to prepare both the patient and the family for the acceptance of the diagnosis of a chronic and progressive disease without either raising the hope of a possible eventual recovery or producing dismay and tragedy. They must be helped to accept a chronic disease that need not necessarily be hopeless and that, with adequate and proper treatment, may be one in which there is improvement. The progression of the symptoms may be retarded and the patient can remain both useful and more or less active for many years. The tactfulness of the physician and his interest in the patient's personal problem is an integral factor in treatment. Medication, physiotherapy, and re-educational exercises should be started without delay and made a regular daily routine; the intensity of each modality of treatment should be graded against the amount of disability already present and the rapidity of development of presenting symptoms.

### MEDICAL TREATMENT AND PROGNOSIS

As a result of the studies made by the Matheson Commission in the 1930's a group of belladonna derivatives, including Bellabulgara, Rabellon, and Vinobel, became available; one half of 1 per cent solution of atropine sulfate was used in addition to scopolamine, stramonium, and belladonna. These latter drugs were contraindicated in the presence of glaucoma or incipient glaucoma and often produced toxic symptoms in sites other than the eyes when given in sufficiently large doses to be effective. Since 1950 many synthetic antispasmodic compounds have been developed, with the purpose not only of allaying the symptoms of the disease but of eliminating some of the more toxic symptoms produced by the atropine compounds.

Trihexyphenidyl (Artane) was the first of the synthetic compounds universally used. This compound is remarkably free from toxic reactions, especially relating to the eyes, as well as being effective in improving rigidity, akinesia, and mental depression, and in controlling oculogyria. After trihexyphenidyl other similar drugs became available, such as cycrimine (Pagitane), procyclidine (Kemadrin), benztropine methanesulfonate (Cogentin), ethopropazine (Parsidol), orphenadrine (Disipal), and chlorphenoxamine (Phenoxene), as well as antihistamines such as diphenhydramine (Benadryl), phenindamine (Thephorin), and others with similar formulas. Most of these substances produce similar reactions, both beneficial and untoward.

The response to a given drug, both favorable and unfavorable, seems to be specific for different patients. The immediate effect of any drug may be, and often is, dramatic in improvement of symptoms; however, disappointment follows when this improvement is not maintained on as high a level. Frequently a drug loses its effectiveness after a year or more; then another should be substituted. A combination of two or more compounds is sometimes more effective than one alone. The older the patient and the more acute the arteriosclerosis, the smaller the dosage tolerated. Older patients may become temporarily mentally confused and disturbed; then the dose must be materially reduced. A patient with the postencephalitic form of the disease tolerates and requires an amount several times larger than patients with either the idiopathic or arteriosclerotic type of disease. Toxic symptoms resulting from any of the compounds

usually disappear on discontinuance of therapy or reduction of the dose. Therefore, either another compound should be tried or the dosage regimen reduced, increasing it gradually under adequate supervision until the optimum dose is reached or the best combination of drugs instituted. For example, trihexyphenidyl alone relieves rigidity primarily and tremor secondarily (a result of lessened rigidity); therefore, another compound that has more effect on tremor, such as one of the antihistamines, is indicated in combination with trihexyphenidyl. Similarly, chlorphenoxamine, which results in the relief of akinesia, nevertheless tends to accentuate or produce tremor. Hence, here also, an additional compound is indicated, the dosage regulated according to the patient's requirements and tolerance. Since sudden withdrawal of any of the drugs may result in an alarming exacerbation of symptoms, experimental manipulation of therapy should be done gradually and a second compound substituted slowly as the first is discontinued.

The importance of physiotherapy cannot be too strongly emphasized. It should be given at home as well as with regular attendance by a competent physiotherapist or in the physiotherapy department of a clinic or hospital. The continuation of routine exercises such as walking and golf, as well as normal employment, is of value in the prevention of increasing immobility and in the maintenance of a healthy mental attitude of both the patient and the family. Sympathetic understanding is essential but an overemotional and overprotective attitude is equally as devastating to the patient as lack of consideration and understanding of his handicap.

The improvement that can be expected varies not only with the individual patient but with the type of the disease. The patient with postencephalitic parkinsonism often seems to become stabilized and may continue for many years without progression of symptoms, although he needs and tolerates large doses of drugs to maintain this status. In the patient with the arteriosclerotic type of the disease, the symptoms are milder, the progress of the disease is slower, and less medication is required and tolerated. The mental and personality changes due to the associated cerebral arteriosclerosis are often more disturbing than the actual symptoms of parkinsonism. In patients with the idiopathic type, which usually overtakes a person in the prime of life and at his most productive period (at the same age when coronary disease, cancer, and malignant brain tumor occur in persons in apparent good health and at the height of their mental capacities), development of parkinsonism is most rapid and least responsive to therapy.

## SURGICAL TREATMENT, RATIONALE, AND PROCEDURES

Treatment with drugs and physiotherapy still fulfills only ameliorative purposes. Since the 1930's various surgical procedures have been devised as another approach to this disease. Surgery has been directed chiefly toward the interruption of corticospinal outflow by creating lesions in either the pyramidal or extrapyramidal systems. Two main lines of approach have been used: either surgical dissection or surgically directed chemical destruction of specific areas. The latter approach has been used in the cerebral cortex or subcortex, basal ganglia, or in their tracts in the brain stem or spinal cord. The techniques and procedures have included section of the lateral pyramidal tract, alone or in conjunction with the ventral corticospinal tracts in the cervical cord, the cerebral peduncle, and the internal capsule. Cortical excisions and incisions have been applied to areas of the premotor cortex. The pallidofugal tracts have been cut, using a transventricular approach. For a period the procedure of cutting the vascular supply to the pallidal region, namely, the anterior choroidal artery, was used. Placement of destructive lesions in the corpus pallidum, and latterly in the pallidum and thalamus, has been carried out through stereotaxic methods, applying either mechanical, thermal, radioactive, or chemical means of destruction. Currently, the calculated placement of destructive lesions by focusing ultrasonic waves in restricted areas of the subcortical ganglia seems to be the method holding most promise for the greatest accuracy of placement of lesions with minimal injury of adjacent areas. This project is being carried out on a strictly experimental basis without any forensic deterrents to objective reporting.

The various surgical procedures have developed either from physiological experimental observations or from chance observations. The rationale for section of the lateral pyramidal tract, at the second cervical segment, for patients having only a unilateral tremor was based on two observations. First, when a patient with Parkinson's disease suffered an acute

vascular lesion in the internal capsule, his tremor was immediately abolished on the paralyzed side, although it tended to reappear as the muscular power improved. Second, the fact was demonstrated in the laboratory that the section of the lateral pyramidal tract in the spinal cord of a monkey did not produce a lasting disability. Because of the belief that the abnormal movements of Parkinson's disease and choreoathetosis arise in the precentral cortex as a result of loss of inhibitions from the degenerated basal ganglia, the prefrontal cortex in this area and in Brodmann's area 4 has been excised, the extent of excision depending on whether arm or leg or both was involved. Pallidofugal tractotomy (interruption of the efferent fibers of the corpus striatum), anterior capsulotomy (section of the anterior limb of the internal capsule), and pedunculotomy all entail the making of relatively large bone flaps and manipulation in important neighborhood areas. It was by a surgical mischance in attempting a pedunculotomy that the results of coagulating or clipping the anterior choroidal artery were observed. The latter procedure has since been abandoned as a therapeutic operation because of the variability in the anatomy of the arteries.

### STATUS AND PROSPECTUS

All of the surgical methods employed thus far require the creation of destructive lesions in various parts of the central nervous system. No method, regardless of how long the results have been checked by critical observation, has proved a panacea for the syndrome, and, except in the most carefully chosen patients, the end results have been disappointing. Even those who claim to have been helped most still require continuation of both drugs and physiotherapy.

Inasmuch as the precise cause of Parkinson's syndrome, as well as the exact portion or combinations of portions of the brain involved in any one case or type, is still almost as much a matter of speculation as it was in 1818 when James Parkinson published his classic description in "An Essay on Shaking Palsy," and since the disease has never been reproduced in laboratory animals except for fragments of the syndrome created by experimental lesions in the brain stem, all treatment, medical and surgical, is still of necessity empirical. However, recently many of the classical concepts concerning the organization of the brain and the localization of functions in the brain have undergone critical review. It is possible that with further researches the understanding of Parkinson's disease may be brought nearer to realization.

The social and economic cost of the disease both to the individual and to society is incalculable, as so many of its victims are usually in the prime of life, with unimpaired intellects, and may live for many years in otherwise good health. This fact has been the stimulating factor in the recent founding of organizations and the establishment of grants for the study of Parkinson's disease.

In spite of the fact that the ultimate problem is still unsolved, marked progress has been made during the past three decades since we first became aware of the sudden increase in the number of persons suffering from the disease as the aftermath of the epidemics of encephalitis lethargica following World War I. In the past 10 years the advance in the number of valuable drugs, resulting from researches of various pharmaceutical houses, has been heartening to the clinician. And, with early diagnosis and the institution of medical and physical therapy in the incipient stages of the disease, the progression of the symptoms can be stayed and the patient can at least be promised many more years of useful life.

# Reading Problems*

Helen Grady Cole, M.D., F.A.C.S.

AROUND 4 MILLION CHILDREN enter the first grade every year. Approximately a fourth of these six year old children have some difficulty learning to read. About 15 per cent of them are slow in maturing and are not yet ready to learn to read. Between 20 and 40 per cent cannot learn to read by the "flash" or "sight" method of teaching used in the schools. Another 19 to 22 per cent may be reading problems because of their left-eyedness or mixed dominance. Because of this huge incidence of reading problems, all ophthalmologists and pediatricians need to be aware of the difficulties of these children so that they can be recognized and treated before the handicap becomes severe.

The typical child whose mother brings him in for an eye examination because he is "not doing well in school" is a boy (5 to 20 times as many boys as girls are poor readers) between 6 and 12 years old whose intelligence rates normal or superior. He is often left-handed or ambidextrous and the left eye may be dominant. He may also have some slight speech defect or mild muscular in-co-ordination.

There are no significant eye complaints and his eyes are usually fairly normal; he rarely has any difficulty with his vision sufficient to account for his trouble with reading. His reading problem is actually one of many possible disorders of association and communication.

The terms commonly used by those working in this field are "dyslexia" and "sensory alexia." Dyslexia means difficulty in reading due to a brain lesion, while sensory alexia is the inability to understand the meaning of the written or printed word.

Primary causes of reading problems include: (1) obvious brain damage that can be easily recognized in children, such as cerebral palsy; (2) subclinical brain damage following fetal anoxia or hypoxia during birth, leading to defects in sensory perceptions; and (3) organic immaturity of association areas. Some investigators consider reading difficulty an inherited trait and a dominant characteristic. This, then, might also be classed as a primary cause of reading problems.

Secondary causes include the tendency of some mentally healthy children to mature more slowly than others; a home environment that does not encourage an interest in reading or that creates emotional confusion in the child's mind; poor teaching or methods of teaching unsuitable to the needs of the particular child; and sensory or other physical defects.

In taking the child's history, the ophthalmologist should, therefore, carefully question the child's parents about such possible pertinent factors as: (1) birth injury, (2) speech or hearing defects, (3) family history of reading difficulties or left-handedness, (4) other possible problems involving co-ordination or speed of reaction, and (5) family problems likely to confuse the child emotionally.

The child with reading problems, of course, should have a careful eye examination. Vision must be less than 50 per cent of normal to be a handicap in learning to read. Small refractive errors, defective fusion, or convergence insufficiency may fatigue a child enough to make him a slow reader but not a retarded reader. Sometimes, too, he needs glasses temporarily to help him through a period of defective accommodation after a serious illness or accident, or an infectious disease. Statistically, the incidence of reading difficulties has been shown to be higher in those who are left-eyed or who have mixed dominance. There is much difference of opinion regarding the attempt

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to change a left-eyed child to right-eyedness by atropinization or occlusion.

Most frequently, however, the ophthalmologist's chief responsibility is guiding the parents to competent assistance in other fields. Hearing defects may interfere with learning to read. Or a child with a foreign language background may be slow in learning to read in a language other than his own. Either of these difficulties may require special assistance.

When deficiencies suggest possible damage to the visual association areas in and around the parieto-occipital cortex, the child should be referred to a neurologist who will test him for neurological defects in recognition or identification of familiar objects, spatial orientation, or inability to understand or interpret adequately what he has seen.

Reading difficulty may also be of emotional origin, and emotional confusion may make clear and rapid mental processes difficult. Emotional insecurity may undermine confidence, reduce the ability to concentrate, and discourage normal motivation for learning. Such emotional difficulties are likely to be due to insecurity in the home following divorce, death of one parent, alcoholism in one parent, or an insecure relationship between a parent and the child. Children who are too immature to learn to read when they start the first grade may be injured by unnecessary competition, that is, having to read aloud in class or otherwise not being able to meet the standards of more developed children. If these children are protected from embarrassment and frustration they will learn to read normally when they are ready.

Signs of such difficulties sometimes make it advisable to consult a psychologist who uses intelligence and personality tests to ascertain more exactly the child's particular difficulties. Psychologists report that reading difficulties usually occur among children who cannot cooperate, concentrate their attention, or follow instructions.

On the other hand, emotional problems may be the result rather than the cause of reading difficulties. A child may feel inferior because of his slow achievement, may feel that the teacher is not treating him fairly or is persecuting him, or may become indifferent to the point where he stays out of school. Under such circumstances, some children become withdrawn while others develop aggressive antisocial attitudes that may be expressed only as minor misbehavior but may become so severe as to lead to actual delinquency. Since it has been shown that 75 per cent of delinquents are poor readers, it is hoped that early attention to reading difficulties may reduce the problem of juvenile delinquency.

Many persons feel that the sight or flash method of teaching reading is responsible for most reading problems. Educators tend to blame overcrowding of schools, compulsory education to the age of 16, compulsory promotion, transient populations, and overworked and inexperienced teachers. In this connection it should be noted that for the last 20 years teachers have had little or no training in teaching reading by the phonetic method. The schools have only recently begun a gradual return to the use of this method.

While emotional or physical handicaps need attention in some cases, usually the chief answer to the child's problem is special work with a good remedial reading teacher. She begins by carefully analyzing the individual child's reading errors to determine his reading level, and testing his word recognition, visual and auditory discrimination, spelling, and associative learning ability. Then his particular weaknesses are treated. In the first grade the commonest reading disabilities are (1) inability to work out the pronunciation of a strange word, (2) failure to see differences in the forms of different words or to hear differences in the sounds of such words, (3) making reversals, (4) failure to keep the place while reading, (5) failure to read from left to right, and (6) failure to read with sufficient understanding.

For years I have wondered what reading specialists did by way of treatment for the children who were referred to them. At last I have found out. Once they have eliminated physical and emotional handicaps severe enough to need special attention, they teach the child to read in the old-fashioned way, that is, the direct phonetic method. They teach careful slow pronunciation by having him read aloud, by telling him it is our custom to read from left to right, and by building up his self-confidence with praise for the things he does well. They use visual, structural, kinesthetic, phonetic, and auditory exercises to show children how words are put together, how words look, and how words sound and are written and spoken. It is important to note that optical machines or gadgets will not teach a child to read. It is only when the child is able to read that ma-

chines are of value, that is, to increase his rate.

If reading difficulties are discovered early in the first grade and promptly corrected, the child's handicap in the long run amounts to little, if anything. But the longer the delay, the more serious is his academic retardation and the greater the probability of his developing serious emotional sequelae. For these reasons both ophthalmologists and pediatricians should watch for reading problems. They should also alert schools to the importance of the problem, to the necessity of a sound method of screening, and to the value of good remedial reading services.

## ADELAIDE ROMAINE, M.D.

*Guest Editor*

Dr. Adelaide Romaine, born in New York City, spent her early life in a brownstone front near where the West Side subway was under construction, and remembers roller skating down the street to look at the big hole in the ground.

Her undergraduate and medical studies were undertaken at Cornell from which she received her A.B. degree in 1926 and her M.D. degree in 1929. She interned at Bellevue Hospital and did postgraduate work in Vienna before starting practice.

Her first interest was internal medicine, which she combined with a part-time industrial job. Becoming increasingly interested in industrial medicine, she decided to make it a full-time career. She has been associated with the medical division of the Federal Reserve Bank of New York since 1939, and in 1949 was appointed medical director. The Roche medical publication *Image* in the winter, 1959, issue carried an article entitled "Doctor in the Money," which described her position as being unique among medical directors. She was elected a fellow of the Industrial Medical Association in 1954.

Dr. Romaine, active in medical organizations, has been treasurer of the AMWA (1951-1953) and president of the Women's Medical Association of New York City (Branch Fourteen) and of the Women's Medical Society of New York State (Branch Eighteen). In 1958 she was elected assistant treasurer of the Medical Society of the County of New York, becoming the first woman to hold office in the Society. She was elected treasurer in 1960. With approximately 7,000 members, this was the largest county medical society in the country until Los Angeles captured the honor last year.

Other activities include membership on the Medical Advisory Committee to the Department of Correction, and representing the county medical society on the Medical Advisory Committee to the Visiting Nurse Service. She has served a term on the Board of Directors of the Cornell University Medical College Alumni Association and also as a member of the Board of the Business and Professional Women's Clubs of New York State. Dr. Romaine was also actively connected with the New York Infirmary from 1932 through 1958, serving in the Medical Department and being in charge of the Health Service for the personnel of the hospital. Since 1958 she has been consultant in industrial medicine for this hospital.

Dr. Romaine and her husband Harry G. Kinkele, a retired businessman, maintain an apartment in New York and a cottage at the beach. The latter is used for week ends in the spring and fall and is filled to the brim all summer with nieces and nephews and their offspring.

Hobbies? When in New York the Kinkeles enjoy the theater and concerts; when in the country they like nothing better than puttering around the cottage, painting rooms, digging in the flower beds, or just enjoying the beach with its swimming and fishing.

—*Julia V. Lichtenstein M.D., F.A.C.P.*

# Contribution of Medical Women to Society*

Connie M. Guion, M.D.

WHAT PHASE OF LIFE more naturally interests women than the health of the family? Who takes the burden of caring for the sick husband or the newborn child? In whose hands lies the responsibility for the hygiene of the home? Is it not the woman in the family who gets the training in the art of medicine?

It is recorded in the first chapter of Exodus that Pharaoh determined to rid Egypt of the Hebrews by slaughtering every newborn male child. And how did he decide to accomplish this? In the fifteenth through nineteenth verses it is stated that he ordered the midwives to kill every boy at birth and to allow the girl babies to live. There is no mention of his holding any man responsible for this slaughter and, as he was most determined to have all male babies slain at birth, we may conclude certainly that the delivery of women was by women alone. The profession of midwifery is a matter of history down through the ages. We can judge of its importance as late as 1919 by the statistics of childbirth in England, where 54 per cent of all deliveries were performed by midwives and where some districts reported as high as 90 per cent.

The earliest history testifies to women's interest and attainments in the practice of medicine. For example, in 1228 B.C. the daughter of Aeetes, King of Colchis, practiced in her father's court, specializing in antidotes for poisons. You can imagine how valuable her contribution was to her father's safety. In 506 B.C. Agnodice, an Athenian woman of noble birth, defied the law of Athens forbidding women to study medicine. She dressed in male attire and learned the healing art. Then she revealed her sex to ill women and became so successful and popular that she attracted public attention and was condemned to death. The protestations of her patients not only saved her life but caused a new law to be passed permitting gentlewomen to study "and practice all parts of physick to their own sex."

I could give you many other examples of laws against women studying medicine, which would prove that from the earliest times women have aspired to become practitioners of medicine and men have conspired to prevent them from so doing. The only reason ever proffered against their ambition was the impropriety of it.

But so wise a scholar as Plato has shown the wisdom of woman's cause. He wrote in his "Dialogues," "Nothing can be more absurd than the practice which prevails in our own country of men and women not following the same pursuits with all their strength and with one mind for thus the State instead of being a whole is reduced to a half."

In medieval times society took Plato at his word in the field of medicine. Women could study at most universities and were professors in many. Salerno was one of the most famous medical centers. Here the department for the "diseases of women" was entirely staffed by women. Many books that were written by these women have survived the passage of time. That women exerted a good influence on the medicine of that day is shown by the records in the archives of Naples, where the licenses granted to women to practice medicine are preserved. The preamble to these reads, "Since then the law permits women to exercise the profession of physician and since besides due regard being had to purity of

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morals, women are better suited to the treatment of women's diseases, after having received the oath of fidelity we permit. . . ."

In Bologna Allessandra Gilliani advanced the knowledge of anatomy by preparation of specimens, injected intravenously, which she colored to imitate nature. In 1292 there were more than eight women practicing medicine in Paris although there were no schools open to women there. They had to study in Salerno, Bologna, or under private physicians.

Altogether, then, women in these days held eminent positions and were highly regarded by the men because of their real contributions to the knowledge and advancement of medicine through teaching, writing, and practicing.

When we come to the fifteenth century, we find that woman's progress in medicine was rudely blocked by the organization of the male physicians of Europe against women in medicine. In England under Henry V, a law was promulgated forbidding women to practice medicine under pain of imprisonment. This opposition increased and similar laws were passed—all of which show that women had not lost their ambition to study medicine and that their success aroused man's jealousy of them.

The modern crusade for woman to recapture her rights to a medical education and the right to practice both the art and the science of medicine was started in 1845 by Elizabeth Blackwell. She yearned for an absorbing interest greater than music and languages when she returned to her home where her brothers and sisters were all gainfully occupied. The idea of studying medicine was given her by a sick friend "who had a disease of a delicate nature." She told Elizabeth that the worst part of her suffering would have been relieved if she could have been treated by a lady physician. Her pressures on Elizabeth to enter the field inspired her to consider it, although at first the suggestion was repugnant to her. However, the more she thought of it the more the idea appealed to her. Finally she set about investigating how she could obtain a medical degree. She wrote letters to all the physicians she knew and received a uniformly discouraging reply—it was an impossibility. Even Harriet Beecher Stowe discouraged her on the basis of the impracticability of it and the prejudice that stood in her way. The Blackwells had no money but they had good connections and a wide circle of friends in Cincinnati, Philadelphia, Boston, and New York as well as in England and France. Elizabeth wrote everywhere in her efforts to get into some institution. The more she was refused, the greater grew her determination to succeed. Finally she gained encouragement from a family friend and decided that first of all she must amass a sufficient fund to meet the expenses. She straightway obtained a position to teach in Asheville, N.C., under a Dr. Dickson, who also promised to help her begin her studies. The story of her drive from Cincinnati over the Alleghenies with her two brothers is full of vivid and thrilling experiences. After a year the school was closed and she went to Charleston, S.C., where she was able to secure work again and study with Dr. Dickson's brother, a professor in the South Carolina Medical College. He gave her courage to pursue her ambition and she continued writing to physicians to help her gain admission to some medical college. In the summer of 1847 she went to Philadelphia, then the center of medical education, and applied to all four schools, only to be refused. One Quaker adviser offered to get her into a school if she would don male attire. But the idea was distasteful to her since it meant that she would obtain her degree by subterfuge as a man while she was fighting for the right for women to study medicine. Others advised her to go to Paris but she wanted to establish the precedent here in America. She wrote, "It was a moral crusade upon which I had entered, a cause of justice and common sense and it must be pursued in the light of day and with public sanction in order to accomplish its end."

Next, after Philadelphia, she sent an application to 12 "country" medical schools. After some time she received an answer from one—Geneva University in New York, now Hobart College. This institution took her seriously but the faculty did not wish to bear the onus of refusing her because of her sex. They therefore placed her application before the freshman class without any suggestion to them but with the conviction that it would be refused. When it was voted upon favorably they accepted the students' decision and the dean wrote her: "I send you results of their deliberations and need only add that there are no fears but that you can, by judicious management, not only disarm criticism but elevate yourself without detracting in the least from the dignity of the profession. Wishing you success in your undertaking which some may deem bold in the present state of society. . . ."

He enclosed the following letter: "At a meeting of the entire medical class of Geneva College held Oct. 20, 1847, the following resolution was passed: 'that one of the radical principles of a Republican government is the universal education of both sexes; that to every branch of scientific education the door should be open equally to all; that the application of Elizabeth Blackwell to become a member of our class meets our entire approbation and in extending our unanimous invitation we pledge ourselves that no conduct of ours shall cause her to regret her attendance at this institution.' "

She entered the school in 1847 and graduated with honors in 1849. The behavior of her classmates she pronounced "admirable" at the end of the two years. But she could not say the same for the rest of the community and the country. She was viewed with disapproval, especially by the wives of the physicians. The press was hostile and sarcastic as shown by this item from the *Boston Medical Journal*: "A very notable event of the year 1848 was the appearance at the medical college lectures of a young woman student named Blackwell. She is a pretty little specimen of the female gender reporting her age as 26. She comes into class with great composure, takes off her bonnet and puts it under the seat, exposing a fine phrenology. The effect on the class has been good and great decorum is observed while she is present." The sprightly *Baltimore Sun* remarked that she should confine her practice, when admitted, to the "diseases of the heart."

She graduated on Jan. 23, 1849, the first woman to complete a medical education with full equality in the privileges and responsibilities of the profession. The fact produced a widespread effect in America, and when she went back to Philadelphia she was politely received and allowed to go to lectures but found the hospital wards and clinics closed to her. She realized then, as we have in these days, that she had taken only the first step in her training. Her medical friends advised her to go to Paris for further experience. She was born in Bristol, England, and most of her father's people were there. At this time a cousin invited her to return with him to England and off she went on April 18, 1849. In London she met many of the most prominent physicians including Paget and she went to lectures as in Philadelphia but could get no practical work. Her one experience was a visit to St. Thomas' Hospital. This convinced her that she must go to Paris if she were to obtain the practical training in obstetrics that she craved.

Accordingly in July, 1849, she entered La Maternité on the same footing as the uneducated French peasant girls who were studying midwifery. Her experiences there were very valuable, often amusing, and often sad. She saw a vast amount of obstetrics at close range and received experience she could have obtained nowhere else in the world. Her behavior so impressed the physicians and interns that she became a great favorite. She stayed there six months. Just before she left one eye became infected from a baby with gonorrhea and in spite of weeks of care she lost the sight of that eye.

Next she went to London where she obtained permission from the council of "St. Barts" to be admitted to work on the wards on equal footing with the men. For the first time she now entered a hospital as a recognized physician without any suspicion being directed toward her. She had permission to work anywhere in the hospital except "in the department for female diseases." She was excluded from this service because the professor in charge disapproved of a woman in medicine. The story of her work among the sick of this hospital is a fascinating one. By the end of her stay tempting avenues lay open to her for further study in every field, but she felt she must return to America and start her work there. The end of July, 1851, she set sail again for New York and her immediate family. For seven years she labored unceasingly in her attempt to establish connections in New York with existing hospitals and medical schools and to start her private practice. She had no medical companionship, the profession stood aloof, and society was distrustful of her innovation.

She started out in rooms in University Place. She employed her leisure hours writing lectures on physical education of girls and delivered them in a basement Sunday school room. Here were gathered many prominent and intelligent women Quakers and from them she drew her first private patients. Among them was an old lady with pneumonia. She realized that she must call a consultant for self-protection although the patient was not very sick. She chose a prominent man who was a close friend of her father's. After he had seen the old lady he paced the floor ex-

claiming, "A most extraordinary case! Such a one never happened to me before; really I do not know what to do!" Very perplexed over the gentleman's state of mind Elizabeth asked what was so unusual in the case and was very much relieved to learn that not the patient but the physician was the cause of his alarm. He could not decide the propriety of consulting with a lady physician.

In 1853 she felt that she must have the experience afforded by hospital and dispensary work. Also, she knew by her experience that many women in all classes of society neglected their health and suffered in silence because they would not consult a male physician. Convinced of the need for a hospital staffed by women to provide medical education and medical care of women, she started a clinic in a small room near Tompkins Square. The amount of work increased rapidly and in 1854 an Act of Incorporation was obtained for an institution where women physicians could be available for the poor. A few well-known citizens acted as trustees. Out of this small beginning gradually arose the present New York Infirmary.

An amusing incident happened at this time. Dr. Blackwell had adopted a little orphan, Kitty Barry. The child had always heard her foster mother referred to as "doctor." On one occasion an old male physician came to call. When he left, the child came with puzzled face exclaiming, "Doctor, how very odd it is to hear a man called doctor!" Which goes to prove that it is all a matter of custom.

Life in those days was very lonely and hard for the only woman physician in New York, against whom there was much malicious gossip and prejudice. She wrote: "These malicious stories are painful to me for I am a woman as well as a physician and both natures are wounded by these falsehoods. Ah, I am glad I, and not another, have to bear this pioneer work. I understand now why this life has never been lived before. It is hard, with no support but a high purpose, to live against every species of social opposition. I should like a little fun now and then. Life is altogether too sober."

Her sister Emily had graduated with honors from the Medical College at Cleveland and had gone to Europe to study. She gained incalculable surgical experience by serving as assistant to Sir James Simpson in Edinburgh. Once, when his waiting room was filled with an assembly of aristocratic men and women, he called in a soft voice "Dr. Blackwell," then louder "DR. Blackwell," "DR. BLACKWELL." When finally he saw that she had heard him he watched from the corner of his eye the astonishment and dismay of his distinguished patients as they saw the lady answer his summons.

After finishing her work in England she too went to Paris and had the same experience as Elizabeth had at La Maternité. Elizabeth was urging her to return to New York and join her in her growing practice and dispensary work. She therefore felt it her duty to give up her study abroad. In 1856 she began her work as an able partner to an able physician. The two were joined by Dr. Marie Zakrzewska, also a graduate of the Cleveland Medical School. Thus re-enforced, Dr. Elizabeth Blackwell founded the New York Infirmary for Women and Children, which was formally opened in May, 1857, by a public meeting at which Henry Ward Beecher spoke in warm support of the work. Elizabeth did the obstetrics, Emily did the surgery, and Dr. Zakrzewska was assistant physician.

The opposition to this new venture to establish a hospital for women and children staffed only by women was great. But the need for it was urgent, because women were now being graduated from several medical colleges and no hospital was available for their practical training or for the exercise of their skill.

About these three physicians gathered many brilliant women. Nine years after the founding of the hospital they won from the state a charter for a medical college to confer upon women the degree of Doctor of Medicine. This institution then became the center for medical education and inspiration for women from 1866 until it closed its doors in 1899, the year Cornell Medical College opened its doors to women on the same footing as men. The students from Women's Medical College were transferred with full credit to this new institution. This act in itself speaks more eloquently for the success, the wisdom, and the tact of this group of women than any description I can give. They had demonstrated satisfactorily to the men that women were capable of studying medicine and that their institution was a success in preparing these students well enough to enter a college being founded as a new institution with the highest standards of medical curricula. When this had been accomplished Elizabeth Blackwell felt that she had at last

won half the prize for which she began her struggle back in 1845, that is, the right for women to study medicine in a coeducational college on an equal footing with men. But the other half of her ambition was still unrealized. Women were still excluded from the postgraduate privileges in hospitals. Therefore, the New York Infirmary for Women and Children was still a vital need in the life of the medical woman.

From this medical center in New York emerged women who went to other cities to establish hospitals and medical colleges. Marie Zakrzewska opened the New England Hospital for Women and Children and was professor of obstetrics at the New England Female College in Boston. I mention this one center because it became so important as a place for internships.

These women were the pioneers for those of us who now think very little of the hard road down which they tramped and begged for the medical training they received. Their contribution to society was: first, the attainment of the right for women to enter the field of medicine as students; second, the right to crystallize their knowledge by practical experience in hospitals; and, third, proving to the community that they could give as good medical service as any man.

They then provided medical education, medical training, and medical opportunities for future generations of women. Last of all they provided for sick women and children the opportunity to be treated by fellow women in a center in their midst and within their means. They brought to these women a new sympathy, a new and different kind of medical aid, and a higher type of obstetrics than the midwifery, the quackisms, and the old wives' tales to which they were accustomed.

In reviewing the history of these women one outstanding characteristic is their extraordinary standard of scholarship and their willingness to undergo untold trials to attain it. Everyone of them traveled to England, Scotland, France, and Germany to gather all that was offered them in institutions and by private tutorship, especially under that great friend of the woman physician, Sir James Simpson of Edinburgh.

The attainments of this group of early physicians aroused the admiration of women in Baltimore interested in suffrage. They knew that the trustees of Johns Hopkins University had been struggling since 1876 to raise money to build a medical school. They learned that $500,000 was needed for the project and through Mary Garrett the necessary funds were secured. They offered it to the trustees provided they would fulfill three conditions, the most important of which was that the new medical college admit women on the same terms as men. After considerable quibbling they accepted all three conditions, and in 1893 the Medical College was opened and men and women were admitted without discrimination. This was just 48 years after Elizabeth Blackwell's struggle had begun! In 1897 Florence Sabin and Dorothy Reed each won an internship in medicine to Johns Hopkins Hospital. In 1901 Dr. Mall, Professor of Anatomy, recommended to the trustees that Florence Sabin be made an assistant in his Anatomy Department, but his request was refused because she was a woman. He then insisted that she be given a fellowship in his department and he assigned an important research project to her. Her work was so brilliant that it won widespread admiration and the trustees were forced to appoint her as assistant in the Department of Anatomy in 1902. Her stature as teacher, research worker, and human being grew daily. Dr. Mall said of her that she was serious, earnest, and had no thought other than to do her best. He recognized her contagious enthusiasm for her work, her brilliant mind, and her modest acceptance of criticisms and suggestions. He was equally appreciative of her love of life, of people, of nature, and of her isolation in Baltimore. His wife became interested in her and her work and they became lifelong friends. When Dr. Mall died in 1917 his wife chose Dr. Sabin to write his life story.

Dr. Mall had taken for granted that Florence Sabin would become the professor of anatomy when he died. He had forgotten the opposition to her being made a mere assistant because he had seen her grow from a shy student to the most admired, respected, and beloved member of the faculty. She had won acclaim for Hopkins. None of her fame outweighed her sex and the trustees passed her by and appointed a man to replace Dr. Mall. She was appointed to a new post, created especially for her, as "professor of histology." When asked if she was staying on she replied, "Of course I will stay. I have research in progress." Although she was made the first woman full professor at Johns Hopkins, she was deeply grieved by the injustice

done her. She had worked at Hopkins as a woman and given to it every ounce of her strength and brilliance and the college had profited from her unfailing loyalty. She stayed on seven more years and each year she inspired students to work for the love of learning and achieving. She continued to strive to attain her own high ideal in basic cellular studies. Her experiments attracted the attention of Dr. Simon Flexner, Director of the Rockefeller Institute for Medical Research. He was looking for just such a scientist and promptly persuaded her to accept a position as full member of the staff of the Rockefeller Institute. In 1925 she left Johns Hopkins and began her work in New York City. She had friends in the Institute who knew her at Hopkins as a brilliant investigator, an inspiring colleague, and a leader among coworkers and students. She soon surpassed her reputation at Hopkins and was recognized far and wide as one of the most honest, most intelligent, and most original and humble research workers in the country. You are fully aware of her eminent work at the Rockefeller Institute from 1925 to 1938. It was awarded by 14 honorary degrees and varied awards that she received.

She retired in December, 1938, at the age of 67 years and returned to her home in Denver. At first she entered fully into the life of her sister, traveling, lecturing, and serving on various civic committees. She became interested in the health of the people of Colorado and especially of Denver and studied the statistics issued by the state and city bureaus of health. In December, 1944, the governor of Colorado appointed her to act as chairman of his subcommittee on health. He had been advised that she was only a laboratory worker, would be merely a figurehead, and would be no political hazard. He little knew her rule of scientific approach to every problem. She applied it with the same meticulous thoroughness as she would have used in her laboratory. She found that the death rate in Colorado was greater than the national figures in 13 out of 20 major causes of death. Diphtheria ranked high as a killer in Colorado and she found that four people died every day of other preventable diseases. Furthermore, she studied the bills for health in the legislature of Colorado in 1945 and discovered that they had died political deaths. She decided that was another preventable disease that needed to be scientifically studied and cured. She quietly and efficiently began her research and launched the most astute and successful campaign I have ever read about. She skillfully induced politicians to serve on committees whose objectives were to pass good public health laws, and she made them feel that they were the promoters of the bills. They found themselves espousing a cause far in advance of their thinking or understanding. The bills were drawn as she planned them and she and the politicians stumped the state for their passage. Finally six out of eight Sabin bills passed the State Legislature. Once again she had won a great scientific and human victory!

But it was not complete because cities of more than 25,000 in population were excluded from the laws. Denver was notorious for its lack of good health laws and one third of the total population of Colorado lived in Denver. The city Department of Health had no professionally trained personnel. She said that the city was "trading lives for votes." She again showed her political sagacity and helped elect a new mayor by convincing him he was running on a platform for good public health. In December, 1947, the new mayor made her manager of Health and Charities. In three months she had made all Denver aware of rats, lice, and filth, as well as diseases that were preventable. She had aroused the interest of the citizens, the medical profession, and medical educators of Denver and of Colorado. As a result, more improvements in the health of Denver were accomplished in six months than in the whole history of the city. Dr. Sabin humbly said, "It all comes from everybody working for the same end." She served in the Denver Health Department under four governors. Her creed to all of them was, "People must think things out for themselves." She quoted Emerson frequently: " 'What will you have?' quoth God. 'Pay for it and take it.' " On her eightieth birthday, Nov. 9, 1951, Peyton Rous beautifully described this great woman's life:

> And what have you taught? Vastly more about those humanities which mean most to human creatures than about the realm of nature, wherein man figures as a mere subsidiary item. Your scientific discoveries I have witnessed with zest and admiring delight; but your lessons of how to do and what to do have gone more deeply home. Has it occurred to you (no, it has not, so seldom are you self-regarding) that your life has been a progress from the special to the general such as few achieve? Your deeds have steadily taken you past the line between the sexes. No longer do we hail you as a great woman but as a great and kind human being.

And Edward McGavran adds the humor of Dr. Sabin's own philosophy:

The plaudits of the crowd can never sway
The humble grandeur of your head of gray,
The sincere tributes of your kith and kin
Are but vicarious hopes of what we might have been.
Congratulations on your four-score years
Include a prayer that in this vale of tears
You will continue through another score
To be our guide, our counselor and more
Include a hope that we will ever be as militant,
As selfless and of pride as free.
Include a promise that the torch you bear
We shall uphold through weather foul or fair.
"Health" you have cried "to match our mountains!"
We would pray—"Lord, give us strength to match our Sabins!"

In Colorado it has been said repeatedly that no man had ever attempted to separate the health of the state from politics. Furthermore, no man could have dealt with the problem with the happy success attained by Florence Sabin. She was a woman and she was 73 years of age when she started the crusade that lasted seven years.

The career of Florence Sabin extended from 1893 to 1953. It would never have been possible except for the pioneer work of Elizabeth Blackwell and her coworkers. As their struggle opened the field of medical education and clinical opportunities to women, so Florence Sabin, Dorothy Reed, and their generation extended their work into hospital internships in large hospitals and research fields. This new group of medical women, like their predecessors, were known for their scholarship, integrity, and sound contribution to the progress of medical science.

I have detailed the life of Florence Sabin because it is both unique in its work and at the same time so characteristically typical of a woman's way of life. I have quoted freely from "The Life of Florence Sabin" by Eleanor Bluemel. Read it and be inspired as I was.

This woman's contribution to society is evident. I know of no other physician who has advanced both laboratory research and public health as did Dr. Sabin. Her third contribution was to her students at Hopkins. They sensed her love of learning and teaching and were inspired to pursue research and "imbued with her high ideals of achievement and her rare sense of evaluation of honest work." Her influence on them never ceased to be a vital factor in their lives. After she went to Rockefeller Institute she continued unknowingly to teach all with whom she came into contact.

There are hundreds of other women who have contributed to society one or another of these feats of Florence Sabin. I know of no other who has effected the same combination. Those in the nineteenth century of whom I have spoken are outstanding pioneers. One group represents the typical clinician and the other the true scientist in the field of research.

There is a third group of whom I speak most enthusiastically—the private practitioners. Their contribution to society is indispensable—it reaches into the home in every walk of life, influencing the health of men, women, and children. I do not need to detail the way in which you yourselves serve other women who would not seek medical aid from a male physician. Furthermore I do not need to emphasize how frequently men seek your advice rather than consult a fellow man. By virtue of your womanhood you provide your patients a sense of security, confidence, and a never-failing spirit of human interest in their welfare that cannot be rendered by a man simply because he is not a woman.

Do not misunderstand me—I am equally aware of the fact that, in reverse, man has attributes, which are inherent in him, that a woman cannot duplicate. If medicine is to render to society its highest service, it must provide both men and women to serve the sick.

Today as never before women physicians are in great demand and in short supply. They are needed in private practice, in academic and industrial medicine, in research, and in public health and welfare work. Any chosen field in medicine is packed with interesting problems and continual growth and development. Medicine is demanding but the rewards and satisfactions of the labor far outstrip any disadvantages. Through the medical profession, more than in any other field, women can contribute toward building better bodies, better minds, better morals, and better ideals to build a better world. We need more women physicians. You and I must encourage the younger generation to join our ranks. We must convince them that, into whatever field of endeavor they enter, their return will be in direct proportion to their contribution. Let us give them the words of Leonardo da Vinci that Florence Sabin adopted as her bookplate:

Thou O God doth sell unto us all good things
at the price of labor.

REPORTS FROM COMMITTEES

# American Women's Hospitals

## FINAL REPORT OF THE AWH TO THE AMWA

THE AWH, ORGANIZED IN 1917 by the Medical Women's National Association (AMWA) but separately maintained and carried on, has always operated for "exclusively charitable purposes," which permits contributions and legacies to be deducted from income and estate taxes. Named after the Scottish Women's Hospitals, conducted by British women physicians throughout World War I, the AWH had hardly started when the Armistice was signed. Then came local wars, revolutions, earthquakes, famine, and millions of destitute refugees, thousands of whom were sick and in need of care.

Shortage of funds limited the activities of the AWH in the beginning, but connections were made with the American Red Cross and other relief agencies, and over a hundred American women physicians in AWH uniforms served in Europe and the Near East during the postwar period. Meanwhile, funds became available and, in answer to urgent appeals, the AWH financed and conducted hospitals and clinics in one country after another, including the Far East and the Southern Highlands of the United States.

Between World War I and World War II (1918-1939) 73 hospitals and about 300 clinics were conducted by the AWH in devastated and/or impoverished countries at different times and places. Buildings were provided locally and the helpful co-operation of community agencies was a vital factor in every field.

Pitiful crowds suffering from all kinds of diseases came to the AWH clinics, and accessory tents were sometimes used to house the overflow at hospitals. Thousands of sick and destitute persons were cared for, and literally millions of treatments were given for trachoma and other diseases. Most of this work was done by refugees—nurses in training and qualified physicians in need of employment.

While the AWH operated independently, it sometimes financed and conducted the medical service of general relief and religious associations—the American Committee for Devastated France, during and after World War I; the Near East Relief in Armenia and Turkey; the Quakers in Russia; the Baptists in Japan; and other denominations in China and other countries.

In co-operation with the American Committee for Devastated France the AWH financed and conducted four hospitals in the war zone between July, 1918, and February, 1920. In addition to local personnel, 15 American women physicians, three dentists, and a corps of nurses were employed, as well as six chauffeuses to drive the cars and ambulances connected with this service at Neufmoutiers, Luzancy-sur-Marne, La Ferté-Milon, and Blérancourt. In the Town Hall at Blérancourt, reconstructed after the war, there is a memorial tablet to the AWH service.

At the Résidence Sociale, Levallois-Perret, the AWH maintained a clinic for women and children from 1918 to 1928, and with funds designated for France provided grounds and buildings for a permanent medical center. Expenditures in this connection were supervised by a committee of the American Women's Club of Paris. During this period the AWH contributed $25,000 to the building of a maternity hospital in the old city of Blois. Twenty-four American women physicians served with the AWH in France during and after World War I.

The AWH service in the Balkans and the Near East began on the Greco-Serbian front

before the end of World War I. After the Armistice six small hospitals were conducted in Macedonian Serbia (Yugoslavia), including the Children's Hospital of 150 beds at Veles. A large outpatient service was carried on in connection with these hospitals, which were transferred to local agencies as conditions improved. Between 1922 and 1924 this work was finished, and with the balance of funds designated for use in Serbia the children's section of a hospital at Skoplje was built in 1927-1928 and maintained until 1934. Fifteen American women physicians served with the AWH in Yugoslavia.

In co-operation with the Near East Relief the AWH had been conducting hospitals and clinics in Armenia and Turkey for three years when the Greco-Turkish War ended with the burning of Smyrna in September, 1922, and the beginning of the exodus of the Christian population of Turkey to Greece.*

Several American relief organizations were in that field when this call for service was heard around the world. The Disaster Relief Committee, with Admiral Bristol as chairman, tried to co-ordinate the activities of these organizations and most of the medical work was assigned to the AWH. Physicians and nurses who had been serving in Armenia and Turkey became part of the migration and an emergency medical service was conducted on the Greek islands as well as on the mainland. Hospitals in operation were turned over to the AWH for the care of refugees, and, lacking hospitals, buildings of one kind or another were made available by local and national governments.

At different times and places between the end of the Greco-Turkish War and the beginning of World War II the AWH conducted 39 hospitals (including 14 infirmaries at Near East Relief orphanages for about a year). To prevent the spread of contagious diseases a quarantine station on Macronissi Island was conducted during the height of the migration. When the influx was over, Greece had a population of about 5 million plus 1,400,000 refugees who were as welcome as the smallpox and other diseases they brought with them. In the beginning there was great difficulty in settling so many refugees in so small a country, but as time passed they brought strength to that country.

Qualified medical men among the refugees were employed by the AWH, but since trained nurses were nonexistent a training school for nurses (the first in Greece) was opened at the Salonika Hospital and afterward transferred to the Kokkinia Hospital in the Athens-Piraeus area. Practically all the young women selected for training had attended American mission schools in childhood, and the woman physician at the head of this service from 1922 to 1941 was born of missionary parents in the Near East and knew all the languages spoken by the refugees.

This was a great advantage. The other American physicians and nurses had to depend upon interpreters. However, good work was carried on and as the years passed one hospital after another in different parts of Greece was turned over to local authorities. Fortunately, the care of the sick at Kokkinia had attracted the attention of the Greek Government and the AWH was requested to reorganize the nursing service at the Athens Municipal Hospital. When this was achieved the same service was extended to the Children's Hospital, "St. Sophia," and continued when that hospital was converted into the Seventh Military Hospital during World War II.

In 1937 the president of the AMWA, the chairman of the AWH Committee, and other American women physicians visited Athens. In connection with the courtesies extended to them, the name "American Women's Hospitals" was officially added to the list of outstanding benefactors of the Municipal Hospital and engraved on the marble column that stands in front of that venerable institution.

Ten American women physicians served with the AWH in Greece (sometimes for short periods) between World War I and World War II. But after the Greco-Turkish War most of the medical and surgical work was done by medical men (refugees), to whom it was the privilege of the AWH to give employment.

Throughout the interwar years medical services were supported by the AWH in other parts of the world, including Russia from 1922 to 1925. During the depression in the 1930's similar work was undertaken in the Southern Highlands of the United States.

*In the Near East Relief report to Congress for the year 1922, published in 1923, the following statement appears: "In Greece, the medical work of the Near East Relief is under the direction of the American Women's Hospitals which provided personnel and supports the medical work. . . . During the year under review, the American Women's Hospitals has also financed and directed the medical work in the Caucasus."

Without the help of the American Red Cross, the American Relief Administration (Hoover Committee), the Near East Relief, the Society of Friends, and other religious organizations, as well as the governments in some countries, the volume of work carried on by the AWH during the interwar years would have been impossible. Buildings were always provided locally and special services sometimes supplemented. Within Greece, for several years, the AWH stamp carried a letter or a package like a postage stamp.

The Medical Women's International Association had its inception at a dinner given at the Waldorf-Astoria Hotel on Oct. 21, 1919, by the AWH Committee of the AMWA. A few days later the chairman of the AWH Committee was elected president of the MWIA; its headquarters, during its formative years (1919-1924), was at the AWH office in New York City.

Since the beginning of World War II, the AWH has co-operated with national branches of the MWIA in medical relief services in various parts of the world. This plan has benefited all concerned—the indigent sick, the national branches, and especially the AWH, whose funds have been stretched and supplemented by the economic aptitude and dedication of the medical women in devastated or impoverished countries where co-operative work has been carried on.

The British Medical Women's Federation, with the help of the AWH, conducted an effective relief program during World War II and its aftermath. The Federation had about 2,000 members in different parts of the country and by supporting their work the AWH participated in the care of civilians, mostly women and children, injured by air raids.*

Full reports were received from the Federation regarding the use of AWH funds. In brief: "Many areas in London and the provinces, and a number of hospitals, have received help from the AWH again and again. In London alone we were able to give help to 43 districts. We gave help to Belfast and districts in Northern Ireland, to Glasgow and districts in Scotland, and to 39 towns in England."

*In addition to this service, 10 American women physicians were accredited by the AWH to the Red Cross for duty in Britain, one of whom, a member of the AWH board, joined the Royal Army Medical Corps and served in North Africa, Italy, and other theaters of war for over three years. She was decorated by the British Government.

A round robin, signed by 64 women physicians serving in Great Britain and Northern Ireland who had expended AWH funds in the relief of civilians injured by bombs, was sent by the Federation to the AWH Committee in New York City (see figure 1 on following page).

But Britain was not the only country where the best possible results were achieved by supporting the medical relief activities of affiliated associations of women physicians. In France this plan was equally successful, and on a modest scale the AWH co-operated with the women physicians of Norway, Finland, and the Netherlands (Fig. 2). Through the French Medical Women's Association the AWH participated in emergency medical services, and the support of the clinic for women and children at Levallois-Perret was resumed. At a later date the AWH provided medical care for emotionally disturbed children at a special home in Sèvres.

Meanwhile, the AWH services at home and abroad were changing with changing conditions. The clinics conducted in the Southern Highlands during the Depression were taken over locally as things improved, and the Maternity Shelter at Greenville, S. C., carried on for years in makeshift quarters, is now housed in a new building erected by public subscription. Good care for mothers and babies at low cost is the objective of the Shelter, which might well serve as a model for similar institutions throughout the nation. The AWH provides part of the cost of the Shelter and, as a token of good intentions, has contributed $25,000 to hospitals conducted by women physicians in other parts of the country.

World Refugee Year (June, 1959-1960), as designated by the United Nations, has now ended, but not the refugee problem. As a result of man's inhumanity to man there are countless thousands of refugees in need of help. Since World War I the AWH has been doing its part for refugees, many of whom have found new homes and are now helping other refugees.

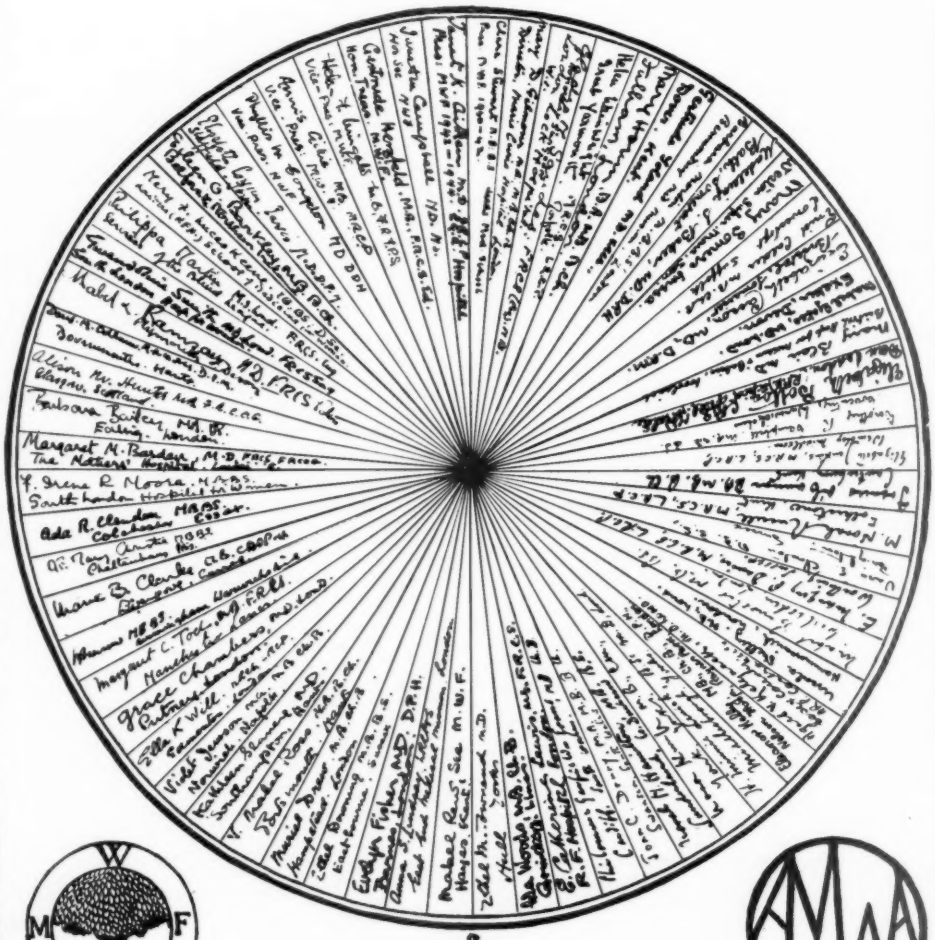
The Austrian Medical Women's Association, with AWH support, gave aid and comfort—food, clothes, a place to sleep, and help in finding new homes—to thousands of Hungarians who escaped into Austria after the failure of their revolt against Russian domination. Many of these escapees were physicians, both men and women, who are now practicing in widely separated parts of the world.

We, members of the British Medical Women's Federation,

wish to place on record our sense of high privilege in sharing with our colleagues of the American Medical Women's Association in the administration of the

## American Women's Hospitals Fund

subscribed in America for the relief of civilians in bombed areas in Great Britain and Ireland. We testify to the warm appreciation of the many recipients of this practical sympathy and generous help.



HERRIJZEND NEDERLAND
AAN: American Women's Hospitals
VOOR DE ONTELBARE DAADWERKELIJKE BEWIJZEN
VAN NAASTENLIEFDE, WELKE HET NEDERLANDSCHE
VOLK IN TIJDEN VAN ZIJNEN DIEPSTEN NOOD
EN OORLOGSVERWOESTING, VERMOCHTEN OP
TE BEUREN EN TE STERKEN EN TOT NIEUW
LEVEN TE BRENGEN
WASHINGTON, 15 October 1946
HR. MS. AMBASSADEUR

Fig. 2. Certificate of appreciation from the Netherlands for AWH assistance during World War II.

In a report to the Congress of the MWIA, held in London in 1958, the delegate from Austria stressed the advantages of this service, not only to the refugees but to the Austrian Medical Women's Association, which found unexpected recognition, especially among the men of their own profession. A resolution recommending that similar measures be undertaken by other branches of the MWIA in the event of national disasters was unanimously adopted.

In Asian countries the AWH has co-operated with other organizations in medical relief work for more than 30 years. Beginning in Japan in the 1920's, this service was extended to China in the 1930's and was carried on at Chengtu, Szechuan, until the Communists took over in the late 1940's. During the past 10 years co-operative work has been conducted in the Philippines, India, South Korea, and Thailand.

The Philippine Medical Women's Association, with the encouragement of the AWH, opened a free clinic at Manila in 1951, which has expanded beyond all expectations. It has grown with the PMWA: "From the original 50 members who convened to decide the organization of a Philippine Medical Women's Association back in 1949, we have now a membership close to a thousand, distributed all over the Islands with chapters in Davao, Cavite, Cebu, Panasinan, Bacoled, and the Ilocos."*

A central building has been constructed at Manila by the PMWA to facilitate its voluntary services—an inspiring precedent. Church and state were represented at its dedication. The wife of the President of the Philippines officiated at the laying of its cornerstone in 1958, and in December, 1959, the wife of the Chargé d'Affaires of the United States ac-

*del Mundo, F.: A decade of PMWA achievement, M. World *20*:219, Nov.-Dec., 1959.

Fig. 3. AWH physicians and nurses serving their own people at free clinics in American, European, and Asiatic countries. (*Top Row, Left*) United States—1917-1960. (*Right*) The U.S. Minister to Greece addressing a class of AWH nurses in 1931. The Bishop of the Orthodox Church and the head of the Health Department sit at his left, and the chief surgeon, Kokkinia Hospital, and head of the AWH in Greece sit at his right. (*Middle Row, Left*) Free clinic in the Philippines—1951-1960. (*Right*) France—1918-1960. (*Bottom Row, Left*) India—1954-1960. (*Middle*) Greece—1918-1960. (*Right*) Korea—1953-1960.

knowledged the dedication of its hall in recognition of the part taken by the AWH in promoting the activities for which the building was erected.

These gracious ceremonies stressed the value of the AWH services from the viewpoint of international relations. The same values have been observed in connection with medical relief work supported by the AWH and conducted by women physicians in other countries where large numbers of women have been graduated in medicine during the past generation.

In Austria, France, Greece, Haiti, India, Korea, the Philippines, Thailand, and the United States, the AWH supports physicians and nurses in their care of the destitute sick. Apart from these duties their work involves wide personal contacts and their influence, enhanced by their national associations, is incalculable. By helping them help their own people, fellowship is engendered and peace as well as health promoted.

Since World War I the AWH has encircled the globe, participating in medical relief services in 20 countries (Fig. 3). Without the cost of professional money raisers, success has hinged upon the support of women physicians and their friends in every state of the Union, including Alaska and the Hawaiian Islands. The AWH Board is deeply grateful for this unfailing support, and in giving thanks bespeaks its continuance at the beginning of a new chapter of the American Women's Hospitals Service.

*—Esther Pohl Lovejoy, M.D., Chairman*

## ATTENTION AMWA MEMBERS

### Medical Books Wanted

A request has come from a colleague in Japan, Dr. Kazue Ohara, for used medical books and medical journals (the latter in sets by volumes so that they may be bound). These books are needed to meet the requirements for establishing postgraduate courses at the Kansai Medical College in which Dr. Ohara is professor of dermatology. The books may be mailed directly to her at Kansai Medical College, Moriguchi, Osaka, Japan.

The cost per book at book rate is about 25¢ for a 2 lb. book (3 cents for the first 2 oz. and 1½ cents for each additional 2 oz., with the maximum weight being 11 lb.); the packages must not be sealed. If several books are to be sent and the donor would like to be reimbursed for the cost, *before mailing* the books write to Ada Chree Reid, M.D., 118 Riverside Drive, New York City 24, for mailing instructions, as Dr. Reid is working on a joint "Medical Books for Asia" Project with the World Medical Association and the Asia Foundation.

Please advise Dr. Reid by postal card so that she may report on the total number of books sent to Dr. Ohara.

# Address by President of Women's Medical Association of New York City (Branch Fourteen)*

DEAR FELLOW MEMBERS, honored speaker, and guests, and especially the young women who are graduating this year from the six medical schools of the metropolitan area of New York City, I want to extend greetings of the Women's Medical Association of New York City to all of you and tell you how happy I am that you are here this evening.

This evening finishes my two year presidency of the Association. They have been very interesting years, and some of the things that have occurred I would like to review briefly with you. I believe that the Association has been more active during these two years in participation in community affairs. This was the reason it became a participating member of the National Council of Women and we have had representatives at a number of their meetings. Dr. Ada Chree Reid headed one of the discussion groups at the meeting on juvenile delinquency. She went as our representative and gave us a very interesting report. Dr. Leoni Claman attended the conference on school problems and also gave us an excellent report.

I am also very proud to be able to tell you that four of our members, Drs. Rosa Lee Nemir, Leona Baumgartner, Ruth M. Bakwin, and Ethel Wortis, were invited to the White House to the recent Conference on Children and Youth.

One of the important achievements during my presidency was the gathering of all the minutes and other written material of the Association since its beginning in 1892. Many of these minutes and letters need binding, which is now being done, and when this has been completed these records will be stored in the archives of the New York Academy of Medicine. They will constitute a lasting record of the progress of women physicians in New York City. This very important work has been accomplished by Drs. Nemir, Mary Crawford, Connie Guion, and Dorothy Sharp. Some of this material was used to make the very excellent pamphlet for our fiftieth anniversary celebration last November [*see p. 781 of this issue*]. This was a tremendous piece of work and we are very grateful to the committee for its devotion to this task. The booklet has been sent to women's medical groups throughout the country, to the medical colleges, and to many of the organizations interested in the work of professional women.

The most active work of the Association has been, as in the past, the study of national and state legislative bills, some in conjunction with the New York County Medical Society. This work has been carried on under the able guidance of Dr. Wortis, and I am very happy that she is willing to carry on this work for us for another term. It has also been aided this year by Dr. Lucy Rudd, who became a member of the Legislative Committee of the New York County Medical Society.

A few weeks ago a letter was sent to all our membership, restating the purposes and goals of the Association and enclosing a post card with four questions to be checked by our members, to ascertain how the Association might become more effective. A large number of our members sent in their replies, showing that there is considerable active interest in the Association at the present time. Dr. Emily Dunning Barringer, one of our most esteemed past presidents, not only sent in the post card but also sent the following letter with it:

". . . . I was much impressed on the occasion of the fiftieth anniversary dinner of the five points you made for the Association [*see p. 780 of this issue*]. I think they cover splendidly the function of the society in our midst, and life is too short and people too busy to have it more complicated. I do believe, however, that in its present 'setup' it could fulfill another function that you did not mention, and that I personally feel is vastly important —that of keeping more well-equipped women in the House of Delegates of the state society and seeing that from there on they are sent as delegates to the AMA.

"American medicine today reaches to the outposts of the world, and the American woman physician should stand side by side with her brothers in deciding its destiny. A

*Presented at the annual spring meeting of the Women's Medical Association of New York City (Branch Fourteen), April 28, 1960.

vigorous executive and legislative committee could cover this. . . ."

The necessity for more active participation in the New York County Medical Society meetings by our women is very important. In this way they will become better known, enabling them to become elected as delegates to the New York State Medical Society. (Dr. May Chinn, Dr. Adelaide Romaine, and Dr. Lichtenstein were delegates from New York county to the state convention this year.)

It is encouraging that, in large part through the efforts of the Association, we are getting more women representatives on the various committees of the New York County Medical Society. The first woman to be elected to the Comitia Minora of the New York County Medical Society (two years ago) was Dr. Romaine, who was nominated and elected assistant treasurer. She has now been nominated as treasurer on the slate to be voted upon at the May meeting.

I am happy to be able to tell Dr. Barringer of our progress in the area she suggested.

Our own association has and will continue to help women physicians by giving them an opportunity to work on our committees, which parallel those of the New York County Medical Society, and to familiarize themselves with the problems with which the New York County Medical Society has to deal. And I feel it is one of the justifications for an association such as ours.

The important and pressing issues of our time are: a proper bill for the care of the aged, not only concerned with medical treatment but with their care in general; the improvement of the life of the children in our community, their health, living quarters, and education; and the improvement of prison conditions, with the job of watchdog for our professional women to see that they are well utilized by our community. These problems can best be worked out in the quiet of a small organization such as ours and then presented to the larger organizations for further consideration.

I have been disturbed by the very small number of our women physicians who attend the regular meetings of the New York County Medical Society. I want you to be proud that you are a member of our association and that we are a vital and articulate organization in the community and a support to the New York County Medical Society.

One of the justifiable criticisms in the past has been that we meet twice a year and that there is no way in which our members are informed or kept aware of the workings of the Association except at these two meetings. The whole work of the Association is centered in the small group of the Board of Governors, who meet once a month. In order to meet this criticism we have decided, as you may have noticed on the ballot, to enlarge our committees and to have each member of the committee attend the monthly meetings instead of having just the chairman of the committee attend.

I am also going to suggest at this time that a card be sent before each of these monthly meetings to our membership with the agenda on it and that if any of you are interested in the problems under discussion you should attend the meeting and share your thinking with us.

Also, the Board of Governors is planning to send out a newsletter every two or three months to our membership, telling what the Association is doing and what honors have been received or activities engaged in by our members.

I would also like to suggest that, if any of you have any special problems you feel we should consider, you send us a memorandum so that we can take up such a question at our monthly meeting and discuss it in your presence.

I still feel, however, that one of the very pleasant functions of the Association, and a very valuable one, is the two dinner meetings each year. It enables us to see each other, meet old friends, and make new ones. And our programs have been timely, presented by able speakers, and have sent us away enriched with new ideas. Also, the combined dinner meetings in the fall with another professional women's group have been a very satisfactory experiment that we will continue most actively. Perhaps at our next dinner meeting we can invite the Women's Press Club to join us, one of the groups we have not had with us.

No association can survive unless it has new and young members who will support it and take over positions of authority after a few years. On the other hand, a large membership does not mean a strong society. A small, articulate membership dedicated and willing to work and keep the Association growing can often make an association stronger and more important than a large mailing list with only a few carrying the load.

*—Julia V. Lichtenstein, M.D., F.A.C.P.*

# Introductory Remarks at Fiftieth Anniversary of Women's Medical Association of New York City (Branch Fourteen)*

As president of the Women's Medical Association of New York City I wish to greet members of the society, distinguished guests, colleagues, all our well-wishers, and spouses, and thank all of you for being here to celebrate the fiftieth anniversary of our society with me and all our members—present and absent.

I am very pleased to be president at the time of this anniversary for I love the society. It is a symbol of many wonderful pioneer women in medicine who have made it pleasant for me to be a physician in this year 1959.

Actually the society has had difficulty in times of quiet and relative prosperity in convincing women physicians of the value of maintaining a separate women's medical society and keeping up a representative membership, but I have lived through two serious crises where the need of an organization such as ours was very apparent and they convinced me that it should be kept an entity.

After 1929 when we had the severe financial crisis in the country, physicians were suffering as much and perhaps more than the rest of the community, and there were suddenly too many physicians in the country. At that time medical schools decided to cut down the number of women applicants or cut them out altogether. This was the time the women's medical societies throughout the country, with our society in the vanguard, visited the medical schools and solicited help from other groups interested in keeping the doors of medical schools open for women. They fought a mighty fight. At this time our society suddenly grew in members and it was considered important for all of us to belong to it.

Again, during World War II, the women's medical societies had to see that women physicians who wanted to serve in our Armed Forces as physicians had the same responsibilities and privileges as our male colleagues. This society again was in the forefront because of our beloved and much revered member—Dr. Emily Dunning Barringer.

This evening I want to state my credo for the continuation of the Women's Medical Association of New York City for another 50 years: 1. It is an organization that can and does function through its individual members in assisting our community in working with pressing problems, especially those that a woman can help and understand. 2. It acts as hostess for visiting women physicians both from other parts of our country and from foreign lands. 3. It acts as a unit to support the New York County Medical Society where it needs us, especially in legislative matters important to physicians. 4. It is the most valuable instrument we women physicians have in time of need or stress. 5. It has personally enriched my life by giving me an opportunity to meet women who have become dear friends and whom I would not have met otherwise.

I am sure that many of you have had a similar experience and I would like to see this opportunity and privilege remain available to our younger colleagues—this wonderful heritage that has been given to us.

*—Julia V. Lichtenstein, M.D., F.A.C.P., President*

*Presented at the fiftieth anniversary dinner, Nov. 4, 1959.

# History of the Women's Medical Association of New York City (Branch Fourteen): 1909-1959*

THE WOMEN'S MEDICAL ASSOCIATION of New York City (Branch Fourteen) was chartered by the State of New York in November, 1909, 50* years ago. Actually it evolved from the Alumnae Association, organized in 1873, of the Women's Medical College of the New York Infirmary for Women and Children. When the College closed in 1899, the Association assumed its present form. The first available minutes are dated Oct. 15, 1902.

The purpose of the original group in the late nineteenth century was to give women physicians an opportunity to share medical knowledge and experience by presenting papers, since at that time women were not invited to give papers before medical societies. They were also fighting for their place in the medical world of men. Hospital appointments for women were practically nonexistent. These women felt it their duty to help the younger members get their rightful opportunities in hospitals; they became a clearinghouse for information on openings in hospitals and dispensaries.

The group has not always had smooth sailing. A motion to disband was entertained but failed to carry in 1912. Nevertheless, there has been great productive activity throughout the years, often initiated and accomplished by a few devoted and competent women.

It is apparent that the activity of the New York group became broader to include community endeavor in the field of promoting good health and welfare while continuing to emphasize medical education for women. The earliest committees indicate these interests, being entitled "Social Hygiene" (1909), and "Fund for Medical Education of Women." This latter interest was expressed by a fund collected by Dr. Mary Putnam Jacobi, called the "Trust Fund for Advancement of Medical Education of Women" and given to the Association in 1906. It has been known under various names such as "Hospital Fund" and "Loan Fund." As the Hospital Fund it was used to help pay hospital expenses of needy patients. As the Loan Fund it continues to be available to women physicians.

In 1907 a Memorial Fund for Mary Putnam Jacobi was started. The interest of this fund was to provide a year's fellowship of $1,000 to a woman physician; by 1910 nearly $12,000 had been collected. Recently, with the increased cost of living, the former stipend of $1,000 was changed to a $2,000 fellowship, given every second year. Approximately 25 women physicians from various countries including the United States have benefited from this fellowship.

Another fund to which the group contributed was for the endowment of a ward in the New York Infirmary for Women and Children in memory of Dr. Emily Blackwell, which was given to the Infirmary in 1909. A tablet in the ward dedicated to Dr. Blackwell was unveiled in 1916.

From the beginning it was apparent that the Women's Medical Association of New York City had a vital role to play in the larger community. As a group it protested to the governor and legislature the plan of transforming Bedford Reformatory for Women into an insane asylum. This was in 1903. In 1908 a letter was sent to the legislature promoting the establishment of a farm for the rehabilitation of alcoholic women. In 1907 child labor and its horrors were discussed. As early as 1909 the Social Hygiene Committee was working with children's nurseries to reduce gonorrheal infection. It also sent a resolution to the legislature to protest the passage of an antivivisection bill. In 1922 birth control and its legislation, especially in New York State, were discussed. Later that year a meeting was devoted to "Voluntary Parenthood."

During World War II, through the insistent effort of our group, assisted by those

*The photographs and copy in this article were presented in an attractive booklet, "Golden Anniversary: Women's Medical Association of New York City," which was given to all guests and members of the Women's Medical Association of New York City at the anniversary dinner, Nov. 4, 1959.

MARY PUTNAM JACOBI

JOSEPHINE BAKER

ELISE S. L'ESPERANCE

ELIZABETH BLACKWELL

JOSEPHINE NEAL

CONNIE M. GUION

EMILY D. BARRINGER

of county, state, and national societies, and of interested lay people, women physicians were commissioned for the first time in the U.S. Armed Forces.

Throughout the years the Legislative Committee functioned efficiently and effectively, informing us of pending legislation affecting the health and welfare of the community. In conjunction with the local and state medical societies we have been a potent force for wise legislation.

This history should include a further word about the nature of the scientific meetings, which were inspired and varied programs given by many notable men and women. The early monthly programs were presentations of unusual cases, often with the patient present, and illustrated by specimens, charts, and lantern slides. Continuing early programs were in the nature of postgraduate courses, with discussion of new remedies and diagnostic procedures. In 1909 male physicians were invited for the first time to a scientific meeting. The papers on cancer of the uterus were given by the women physicians and discussed by the men.

The group's interest in the woman medical student was expressed in a concrete form beginning in 1951 with the beginning of a tradition of honoring, at its annual spring meeting, the fourth year woman medical student with the highest scholastic average from each of the medical schools in Greater New York.

The functions of the society have been varied through the years. In recent times the Association has served as hostess to women physicians from all over the world. During the World's Fair held in New York City, clinics were organized and hospitality was offered to the visiting women. The Medical Women's International Association, the Pan American Medical Women's Alliance, and the members of other branches of the American Medical Women's Association have been entertained.

Throughout the years the needs of women physicians have changed. We now have an established and honored place in the medical world but we salute the pioneer women who, with character, intelligence, vision, and selfless devotion, made the road smoother and broader.

Many members of Branch Fourteen have been prominent in medical women's organizations. Drs. S. Josephine Baker, Emily D. Barringer, Elise S. L'Esperance, Esther P. Lovejoy, and Alice Stone Woolley were presidents of the AMWA. In addition, Dr. Lovejoy was the first president of the MWIA, and Dr. Ada Chree Reid served as its president from 1950 to 1954. We have supplied two editors of the JOURNAL OF THE AMERICAN MEDICAL WOMEN'S ASSOCIATION (Drs. L'Esperance and Reid), and many members of its Editorial Board, three of whom are contributors to the present issue (Drs. Constable, Cole, and Crawford).

"The mutual enrichment of each other," one aim of this group as stated in its constitution, should help women physicians to achieve their optimum medical and personal development and to contribute to society that talent and endowment that is peculiar to women physicians.

—*Rosa Lee Nemir, M.D.*
*Mary M. Crawford, M.D.*
*Connie M. Guion, M.D.*
*Dorothy J. Sharp, M.D.*

# The Mary Putnam Jacobi Fellowship of the Women's Medical Association of New York City

## HISTORY

THE MARY PUTNAM JACOBI FELLOWSHIP was established by the Women's Medical Association of New York City (Branch Fourteen) to perpetuate the memory of one of its distinguished colleagues, Mary Putnam Jacobi, to whom Dr. William Osler has referred as "a bright particular star in the firmaments."

Mary Corinna Putnam was born in 1842 and early revealed the qualities of leadership and independent thinking that were important factors in her later success. In 1863 she entered the Woman's Medical College of Pennsylvania where she received her M.D. degree. After some hospital experience in Philadelphia and Boston she left in 1866 for Paris to try for admission to L'Ecole de Médicin, in which no woman had as yet been accepted as a student. She was rejected by the faculty as a student but was permitted to attend clinics and lectures at the College of France and the Jardin des Plantes. After two years of this, she was granted private entree to the library of L' Ecole and, some months later, was admitted to examinations leading to a degree. She passed her last examination in 1871, receiving the mark "perfectly satisfactory," the highest given by the faculty, and for her thesis was awarded second prize, the bronze medal.

Dr. Putnam then returned to New York City where she became professor of materia medica and therapeutics at the new Women's Medical College of the New York Infirmary, which had been founded by her friend, Dr. Elizabeth Blackwell. Not long after her return, she was elected to membership in the Medical Society of the County of New York, the second woman to receive this recognition, Dr. Blackwell having been the first. In 1880 she became the first woman fellow of the New York Academy of Medicine. In 1873 she married Dr. Abraham Jacobi and bore him two children. The loss of the son at the age of 8 years was a crushing blow.

During these years Dr. Putnam Jacobi continued to exercise her profession. Besides her private practice, her lectures at the Infirmary, and dispensary visits at Mount Sinai and St. Mark's hospitals, she wrote numerous articles on medical subjects in addition to several books. For her essay "The Question of Rest for Women" she won the Boylston prize in a Harvard competition in 1876. Since she had experienced the handicap of having doors of professional opportunity closed to her because she was a woman, she had resolved, when yet a student, to work in behalf of women in the field of medicine. Later as a teacher she emphasized to her own women students the importance of a scientific spirit and of thorough preparation for the practice of medicine. By her writings and speeches she helped to influence sentiment in favor of opening the Johns Hopkins Medical School to women, which was accomplished in 1893. She was active in many projects concerned with the advancement of women and was an ardent supporter of the cause of woman's suffrage.

She died of a brain tumor in 1906 at the age of 64 years, having been the first to make the diagnosis. Shortly after her death a memorial meeting was held by the Women's Medical Association of New York City and the members pledged to raise funds to establish the Mary Putnam Jacobi Fellowship, the purpose of which was to carry out Dr. Jacobi's ideal to further postgraduate medical education for women in medicine.

On Feb. 13, 1929, the Women's Medical Association gave consent to make the Jacobi Fellowship Fund a permanent trust under the trusteeship of the Central Union Trust Company of New York (now the Hanover Bank). The first award was given in 1910 in the amount of $800. Since then, the fund has grown and it has been possible to increase the grant. At the discretion of the Fellowship Committee, an award of $1,000 may be given annually, or $2,000 may be granted biennially.

During the years 30 women graduates in medicine have received the award; these are evenly divided between American physicians and women physicians from other countries—Brazil, Hungary, China, Switzerland, Pakistan, and the Philippines. Whenever it was expedient American physicians have pursued their studies abroad and those from other countries have come to the United States. Thus the ideal of Mary Putnam Jacobi and the original aim of the Fellowship Fund have been achieved. And the fellows have been enabled to broaden their knowledge and to take back to their native lands the experience and skills thus acquired.

(The material for this summary was obtained chiefly from "Mary Putnam Jacobi, a Pathfinder in Medicine," published by the Fellowship Committee, 1926; "The Mary Putnam Jacobi Fellowship" by Elise S. L'Esperance, M.D., Chairman of the Committee, which was reported in THE JOURNAL (*1*:90-92, June, 1946); and from "Mary Putnam Jacobi" by Helen Johnston, M.D., which also appeared in THE JOURNAL (*1*:118-122, July, 1946).

## FELLOWSHIP AWARD

The Women's Medical Association of New York City (Branch Fourteen) offers the Mary Putnam Jacobi Fellowship to a graduate woman physician, either American or foreign. The fellowship of $1,000 will begin Oct. 1, 1961, for a period of one year. At the discretion of the Fellowship Committee an award of $2,000 may be given biennially. The recipient of the Fellowship will be expected to make a report at the end of the fourth month, after which the balance will be awarded subject to the approval of the Committee. The Fellowship is given for medical research, clinical investigation, or postgraduate study in a special field of medicine. The recipient is expected to devote full time to the Fellowship, but exception may be made under special circumstances.

Applications may be obtained from the Chairman of the Committee, Ada Chree Reid, M.D., 118 Riverside Drive, New York City 24, and must be returned before March 1, 1961, with the following information: (1) curriculum vitae, (2) statement of a recent physical examination, (3) transcripts of college and medical school records, (4) personal letters of recommendation from two or more physicians under whom the applicant has studied, (5) a statement by the applicant of the study she plans to undertake, (6) a statement from the department or institution where the applicant proposes to study of satisfactory arrangements, and (7) a recent photograph. All the afore-mentioned information must be at hand before the application will be considered. Successful candidates will be notified not later than May 1, 1961.

# President's Message

Planning ahead is vital to the success of most of our professional endeavors. So, as I return from the Annual Meeting in Miami Beach, Fla., I am projecting my thoughts toward the next Annual Meeting. The acceptance of the new Constitution and By-Laws necessitates even more vigorous and careful planning than ever before. We are embarking on a new and untried road; whether this road leads to an expanding horizon or a circuitous detour will depend entirely on the loyal support and active participation of every member of AMWA.

Our new Constitution and By-Laws provide for a House of Delegates that will be the policy-making body of the Association. It will include delegates selected by the branches, state directors representing members at large, officers and councilors, chairmen of standing committees, the three immediate past presidents, and the director of junior membership.

To ensure democratic action, all members of this body must do everything possible to attend and participate in the Annual Meeting. The organization of the next Annual Meeting will call for effort by each individual member. We must decide on the time and place of the next meeting. You all undoubtedly have thoughts as to the pro's and con's of having our AMWA meeting just prior to the annual meeting of the American Medical Association. The new Constitution and By-Laws no longer require this, and so each member has been polled to determine what the majority wants.

The new officers and councilors are to be elected by a new procedure in which the election by mailed ballot of a Nominating and Elections Committee is necessary. This Committee will in turn prepare two slates—that of the officers and councilors, and that of the Nominating and Elections Committee for 1961.

Most important of all in our plans for this and subsequent years is the fostering and stimulation of branch action. It is at the "grass roots" that action must take place. Each branch (and, of course, ultimately each member) must discard any idea that there is a barrier between the national organization and its branches, or that the branches are unimportant. The parent organization can be strong only if the branches are strong. Each branch, therefore, must be represented by delegates at the Annual Meeting. Selection and orientation of these members cannot begin too early.

I ask your full support of these activities. Let us make this next year a dynamic and forward-moving one for the AMWA.

Claire F. Ryder M.D. M.P.H.

# Highlights of 1960 Annual Meeting

CONSTITUTION AND BY-LAWS. The 1960 Annual Meeting adopted a new Constitution and By-Laws for the Association. The provisions of the Constitution and By-Laws will be put into operation as speedily as possible. Each member received an advance copy of the instrument as adopted.

MEMBERSHIP DIRECTORY. A membership directory is being compiled and will be ready for distribution in late summer. The directory can be made available to medical societies, medical libraries, and other professional groups *for noncommercial purposes* on request.

STUDY OF SCHOLARSHIP LOAN FUND. An interim report from the current study of methods and use of the Scholarship Loan Fund indicates a continuing need for such a program, as expressed by both deans of medical schools and recipients. An effort will be made to increase the Fund and expand its uses for loans, fellowships, and grants.

LIBRARY FUND. The matter of the Library Fund was referred to a special committee for study and recommendations.

APPOINTMENT TO FINANCE COMMITTEE. Dr. Ruth Hartgraves was appointed to the Finance Committee.

PAMPHLET ON "EMOTIONAL HEALTH OF THE FAMILY." A committee to supervise the preparation of a pamphlet on "Emotional Health of the Family," using material provided through the AMWA program in this area, was created.

FUTURE WOMEN PHYSICIAN CLUBS. The Medical Education Committee was authorized to investigate the possibility of the AMWA sponsoring the organization of Future Women Physician Clubs of America in high schools throughout the United States.

POLIO PROTECTION. The AMWA will support the National Health Council in its efforts to expand the level of protection against poliomyelitis.

WORLD'S FAIR EXHIBIT. A committee will be appointed to explore the possibility of an exhibit at the World's Fair, to be held in New York City in 1964.

COUNCIL ON PUBLISHING PROBLEMS. The chairman of the Publications Committee will represent the AMWA in the newly created Council on Publishing Problems.

AMERICAN WOMEN'S HOSPITALS SERVICE, INC. The matter of separate incorporation of the American Women's Hospitals Service was reported as completed.

MEDICAL WOMEN'S INTERNATIONAL ASSOCIATION. The 1960 meeting of the MWIA will be held in Baden-Baden, Germany, Sept. 7-10, 1960. The MWIA will be invited to meet in North America in 1966. Topics for discussion at the 1962 and 1964 meetings of the MWIA were requested. Suggested topics for 1962 are: "Emotional Health of the Family," "Physicians in the Role of Advisers," and "Infant Mortality." The name of Katharine W. Wright, M.D., will be placed in nomination by the AMWA for president of the MWIA.

MEDICAL MISSIONS TO RUSSIA. The U. S. Public Health Service will be asked to include qualified women physicians on the next medical missions to the U.S.S.R. The next missions announced will be concerned with cancer and heart disease. A mission on poliomyelitis did not include women physicians.

BOOKS FOR KANSAI MEDICAL COLLEGE. Dr. Kazue Ohara, Professor of Dermatology at Kansai Medical College, appealed for books and medical journals, which are needed to establish postgraduate courses at the College. For complete instructions see page 777.

# Of Special Interest

## LEGISLATION

*Health Care of the Aged.* Arthur S. Flemming, Secretary of the Department of Health, Education, and Welfare, presented the administration's proposed bill for the health care of the aged to the House Ways and Means Committee on May 4. To qualify for the "voluntary" program, an elderly person has to pay a premium of $24 a year. Those requiring health care would have to pay the first $250 or $400 plus 20 per cent of the remaining cost of authorized benefits. The initial payment of $250 for single persons and $400 for a couple would be required. Included in the program would be persons who did not pay income taxes in the preceding year or those whose adjusted gross income did not exceed $2,500 if single and $3,800 if married. In computing adjusted gross income, benefits from the social security program, the railroad retirement program, and veterans' pensions would be included. Those on public assistance rolls would not have to pay the yearly fee nor the aforementioned initial deductible cost of medical treatment; these costs would be paid by the states.

Benefits under the program would include: hospital care for 180 days, skilled nursing home care for 365 days, organized home care services for 365 days, surgical procedures, laboratory and roentgen-ray services up to $200 annually, physicians' and dentists' services, prescribed drugs up to $350 annually, service by private duty nurses, and physical restoration services.

An aged person eligible for participation in the program could elect to purchase a major medical expense insurance policy from a private group with the understanding that 50 per cent of the cost would be paid for him from Federal-state matching funds up to a maximum of $60. The states would be responsible for establishing the minimum specifications for such policies. (*Medical Legislative Digest*, May 20, 1960.)

## MEDICAL EDUCATION

*New Program.* A Special Studies plan, attempting to provide a more challenging medical education for the superior student, will be offered this fall at the University of Michigan Medical School to 10 per cent of the 200 entering students. They will be chosen on the basis of motivation, special interests in medicine, and exceptional intellectual capacity.

Dr. John M. Weller, Associate Professor of Internal Medicine and co-ordinator of the program, said that the recommended course of study would include seminars, research reports, guest lectures, close tutorial supervision of the student's work, individual research programs, and other "special learning and investigative opportunities." It was hoped that financial aid in the form of fellowships and scholarships would be made available to these students.

*Language Requirements.* The language requirement for admission to the University of Michigan Medical School originally specified a college year's study in French, German, Spanish, Latin, or Greek. This has been expanded to include students who have completed a two semester language sequence in college, or who can show equivalent achievement in a language proficiency examination. The change was requested by the Medical School faculty because it was felt that an increasing number of students would be presenting language proficiency in Russian and Oriental languages. With the increasing development of foreign languages on the secondary and primary school levels, an increasing number of students would be already proficient in a foreign language.

## PHS GRANT TO ARCHITECTS

The U.S. Public Health Service has awarded a grant, the first of its kind, to the New York chapter of the American Institute of Architects. The grant, awarded for research in hospital design, provides for a three year study of the planning of hospital operating suites. The project was formulated by the Hospital and Health Committee of the AIA through its subcommittee on research. The project's work will include an intensive investigation of routines carried on in operating suites; a survey of work being done in combating hospital-acquired infections, insofar as this applies to the layout and equipment of operating suites; and an analysis of existing and projected operating suite plans, with the purpose of developing information to help hospital architects.

# Opportunities for Women in Medicine

## COURSES

*Cancer.* A postgraduate course, "Cancer and the Internist—1960 Concepts." sponsored by the American College of Physicians, will be offered at Memorial Center, Sloan-Kettering Institute for Cancer Research, New York City, Oct. 10-14. Registration forms and information can be obtained by writing Edward C. Rosenow, Jr., M.D., Executive Director, ACP, 4200 Pine St., Philadelphia 4.

*Electrocardiography.* The American College of Physicians' postgraduate course no. 3, "Electrocardiography," will be offered at the University of Utah College of Medicine in Salt Lake City Nov. 7-11. For registration forms and information write to Edward C. Rosenow, Jr., M.D., Executive Director, ACP, 4200 Pine St., Philadelphia 4.

*Hematology and Radioisotopes.* Sponsored by the American College of Physicians, a course in "Hematology and Radioisotopes" will be offered Sept. 19-23 at the Ohio State University College of Medicine, Columbus. Registration forms and information can be obtained from Edward C. Rosenow, Jr., M.D., Executive Director, ACP, 4200 Pine St., Philadelphia 4.

*Medicine.* Montefiore Hospital is offering courses during the period Sept., 1960-June, 1961, as part of a postgraduate medical education program of Columbia University. The courses are open to graduate physicians with a license to practice medicine in some state in the United States. All practitioners are invited. The courses cover the fields of cardiology, clinical electrocardiography, peripheral vascular diseases, clinical hematology, allergy, gastroenterology, diseases of the chest, neoplastic diseases, internal medicine, and elementary ophthalmoscopy. Attendance is limited. Applications and a brochure giving a complete list of the faculty, details of each course, and fees can be obtained from the Secretary for Medical Instruction, Montefiore Hospital, 210th Street and Bainbridge Avenue, New York City 67.

*Pediatrics.* Practicing pediatricians can take advantage of the course being offered by the University of Colorado Medical Center at the Stanley Hotel, Estes Park, Sept. 1-6. The course will be offered in two parts. Part 1, Sept. 1-3, will be devoted to "Clinical and Research Advances in Pediatrics," and Part 2, Sept. 5-6, will be devoted to "Child Guidance Problems." Seminars will be held as a part of each course. Tuition for the course is $60, or $30 for either of the two parts. A registration fee of $10 will not be refunded. For registration forms and further information write to the Office of Postgraduate Medical Education, University of Colorado Medical Center, 4200 E. Ninth Ave., Denver 20.

## MEETINGS

*Cancer.* The Fourth National Cancer Conference, sponsored by the American Cancer Society and the National Cancer Institute, will be held Sept. 13-15 at the University of Minnesota, Minneapolis. For information write to the Secretary, American Cancer Society, 521 W. 57th St., New York City 19.

*Clinical Pathology.* The American Society of Clinical Pathologists will meet at the Palmer House in Chicago Sept. 24-Oct. 2. For further information write to Mr. Claude E. Wells, 445 Lake Shore Drive, Chicago 11.

*Diagnostic Problems.* A Symposium on Current Diagnostic-Therapeutic Problems in Dermatology and General Medicine will be held at Bingen on the Rhine, Germany, Oct. 14-16. For information write to Dr. med. Wolfram W. Kuhnau, Bingen am Rhein, Mainzer Strasse 4, Germany.

*Heart.* The American Heart Association's 33rd Annual Scientific Sessions, to be held at the Kiel Auditorium, St. Louis, Oct. 21-23, will present six sessions of broad clinical interest to run concurrently with the investigative scientific programs. Also included are programs of particular interest to dentists and nurses. The clinical programs, stressing the application of findings in cardiovascular research, will include symposia, panels, lectures of general interest, and papers submitted on recent results of research. The sessions are acceptable for Category II credit by the American Academy of General Practice. Forms for registration and reservations can be obtained from the AHA, 44 E. 23rd St., New York City 10.

*Muscle.* The International Conference on "Muscle as a Tissue" will be held at the Lankenau Hospital in Philadelphia Nov. 3-4. For information write to Dr. Kaare Rodahl, Lancaster and City Line avenues, Philadelphia 31.

*Myocardial Infarction.* The International Symposium on the Etiology of Myocardial Infarction will be held at the Henry Ford Hospital in Detroit Nov. 16-18. Contact Dr. Thomas N. James, Henry Ford Hospital, Detroit 2, for further information.

*Pathology.* The College of American Pathologists will meet at the Palmer House in Chicago Sept. 24-27. Information can be obtained from Dr. Arthur H. Dearing, 2115 Prudential Plaza, Chicago.

*Pediatric Radiology.* The Society for Pediatric Radiology will meet at the Ambassador Hotel, Atlantic City, N.J., on Sept. 26. For information write to Dr. Richard G. Lester, 412 Union St., S.E., Minneapolis 14.

*Radiology.* The American Roentgen Ray Society will meet Sept. 27-30 at the Ambassador Hotel in Atlantic City, N.J. Write to Mr. Hugh Jones, 20 N. Wacker Drive, Chicago 6, for information.

*Recreation.* The National Recreation Congress will meet at the Shoreham Hotel, Washington, D.C., Sept. 25-29. Interested physicians should contact Willard B. Stone, 8 W. Eighth St., New York City 11.

*Rheumatic Diseases.* Ixtapan, Mexico, will be the site of the Symposium on Rheumatic Diseases, to be held Oct. 19-23. For information write to General Tours, Inc., 595 Madison Ave., New York City 22.

*Surgery.* The American College of Surgeons will hold its 46th annual Clinical Congress in San Francisco Oct. 10-14. An attendance of 10,000 is anticipated, with more than 1,000 physicians taking part in the various programs. Nine postgraduate courses will be offered, 258 papers will be presented at the Surgical Forum, motion pictures and closed-circuit telecasts will be shown, and didactic meetings and panels will be held. Information can be obtained from Dr. William E. Adams, Secretary, American College of Surgeons, 40 E. Erie St., Chicago 11.

## BRANCH NEWS

Dr. Carroll Birch and Dr. Elizabeth McGrew represented BRANCH TWO, CHICAGO, as participants in a panel discussion at the meeting of the American Association of University Women on Jan. 13. Dr. McGrew spoke on "Women in Research" and Dr. Birch on "Women in Medicine." Members of the panel were business and professional women. Interviews with the two physicians were taped and broadcast over station WIII, Urbana, Ill.

A meeting of BRANCH TWENTY-FIVE, PHILADELPHIA, was held on Jan. 13 in the auditorium of Woman's Medical College of Pennsylvania. Women students from four of the Philadelphia medical colleges were invited to enjoy dinner and a program, designed as entertainment and as a review of the aims and purposes of AMWA. Dr. Alma Dea Morani gave a short talk on the background of AMWA and spoke warmly of the enjoyment and value of meeting women physicians of other countries at meetings sponsored by the MWIA. Dr. Emily Van Loon demonstrated some of the pleasures of medical meetings by an illustrated talk, "Ten Minutes of Ireland and Scotland with the AMWA." Dr. Van Loon also arranged for the appearance of a group of young folk dancers.

BRANCH FIFTY-ONE, AUGUSTA, GEORGIA, was welcomed into AMWA membership at the 1960 Annual Meeting in Miami Beach, Fla. Officers for 1960-1961 are: Dr. Alva Faulkner, President; Dr. Martha McCranie, First Vice-President; Dr. Irene LaMotte, Second Vice-President; Dr. Sarah Clark, Secretary; and Dr. Carol Pryor, Treasurer. There will be eight monthly meetings a year from September through May. Junior members will participate in four of these meetings. Branch Fifty-One was organized by women physicians of Augusta with the assistance of Dr. Dorothy Brinsfield, Georgia State Director and President-Elect of Branch Twenty-Nine, Atlanta, and the other officers of Branch Twenty-Nine.

# News of Women in Medicine

DR. JANET S. BALDWIN, a pioneer in pediatric cardiology, received posthumous honors in New York City recently when a unit for diagnosis and research in pediatric cardiology bearing her name was opened at Bellevue Hospital. The facilities and the anticipated projects of the memorial laboratory were discussed in the "Medical Distaff" column of *Scope Weekly* of April 20. Dr. Baldwin, an AMWA Woman of the Year in 1958, was associate professor of pediatrics at New York University College of Medicine and head of the Children's Cardiac Service at Bellevue Hospital at the time of her death in 1958.

During 1959 DR. LEONA BAUMGARTNER, New York City Commissioner of Health, received an honorary Doctor of Laws degree from Skidmore College.

DR. SUSAN COOK, who was graduated from the University of Chicago School of Medicine in June, was featured in the March 29 issue of *Look* in an article entitled, "The Training of a Good Doctor." The six page picture-story tried to show the varied hospital experience gathered by the fourth year medical student.

DR. HARRIET P. DUSTAN of the Cleveland Clinic was named one of Cleveland's top 10 career women. The 10 women are featured in a film to be shown in various parts of the country.

At the 1960 Industrial Health Conference held in Rochester, N.Y., April 25-28, DR. CHRISTINE EINERT of the California Department of Health served as chairman for the business session, including discussion of committee reports on "Worker Health Information."

DR. AUDREY EVANS of the Harvard Medical School, Boston, was invited to address the annual meeting of the Medical Society of the State of New York, held May 7-13, on "Therapeutic Use of Bone Marrow Infusions." At the same meeting, DR. ROSE M. LENAHAN, Assistant Anesthesiologist at the Buffalo General Hospital, discussed "Use of the Tecota Chloroform Inhaler in Obstetrics"; DR. D. JEANNE RICHARDSON, a visiting anesthesiologist at Bellevue Hospital Center, discussed "Problems Caused by Rauwolfia and Related Compounds During Anesthesia and Surgery"; and DR. BARBARA LIPTON, Associate Attending Anesthesiologist at Beth Israel Hospital, was one of three to present "Cardiovascular Effects of Syntocinon, Pitocin, and the Ergot Alkaloids."

DR. RITA FINKLER of Newark, N.J., will spend the months of June, July, and August as a member of a group going to the Middle East, Afghanistan, Nepal, Pakistan, India, and Israel on a study trip.

DR. MINNIE FRANK, Assistant Professor of Pediatrics at the Chicago Medical School, was honored by the senior class at its dinner on June 4 as the faculty member who had done the most for the class in the way of clinical teaching. Dr. Frank received a citation from the president of the class.

At a recent meeting of the New York Pathological Society, DR. VIRGINIA K. FRANTZ, an attending surgical pathologist at Columbia-Presbyterian Medical Center, New York City, presented a paper on "Extrapancreatic Tumors Associated with Hypoglycemia."

DR. GRACE A. GOLDSMITH, Professor of Medicine at Tulane School of Medicine, New Orleans, was chairman of a symposium held in the winter of 1959, sponsored jointly by Tulane and the National Vitamin Foundation, and concerned with lipid metabolism and the role played by vitamins and other nutrients. On June 13 Dr. Goldsmith participated in a symposium on nutrition at the AMA's annual meeting in Miami Beach, Fla.

DR. ELINOR B. HARVEY of Berkeley, Calif., received a grant from the National Institute of Mental Health to conduct a three year study of the psychological factors in children with asthma and hay fever. Comparison studies will be conducted on children with cardiac defects.

DR. MARGARET HATFIELD of Kenosha, Wis., formerly District Health Officer with the State Board of Health, was named city health director. More than 100 persons gathered to honor her.

In March, 1960, DR. HELEN HAYDEN of Chicago presented a paper, "Neglected Aspects of Pediatric Allergy," to the First Bahama's Allergy Conference in Nassau. Dr. Hayden also moderated a panel at the Conference.

DR. OPAL E. HEPLER of Chicago received an Annual Merit award from the Chicago Tech-

nical Societies Council on Nov. 11, 1959. Dr. Hepler was nominated for this honor by the Chicago Society of Medical Technologists and by the Society of Experimental Biology and Medicine.

DR. HARRIET MALING, a member of the senior research staff of the Laboratory of Chemical Pharmacology of the National Heart Institute, and DR. CATHERINE A. NEILL, Assistant Professor of Pediatrics at the Johns Hopkins University School of Medicine, were members of the faculty of the American College of Physicians' postgraduate course, "Current Research in Cardiovascular Disease," which was presented May 16-20.

DR. MOLLIE NIV of the Jewish Memorial Hospital, New York City, addressed the Bronx Pediatric Society, April 13, on "Kwashiorker."

DR. BARBARA PARKER of the New York University College of Medicine participated in a panel meeting on "Therapeutics: Causation, Epidemiology and Treatment of Common Poisonings," held at the New York Academy of Medicine March 17.

DR. JOSEPHINE E. RENSHAW of Washington, D.C., spoke on "Inga's Angle" over WRC-TV in December, 1959, on the subject of obstetrics. DR. JOSEPHINE J. BUCHANAN's subject was "The 'New Look' of the Department of Physical Medicine and Rehabilitation at the D.C. General Hospital." The Speakers Bureau, through which Drs. Renshaw and Buchanan participated, is a service of the Medical Society of the District of Columbia's Committee on Public Information, which fills requests for speakers for lay groups.

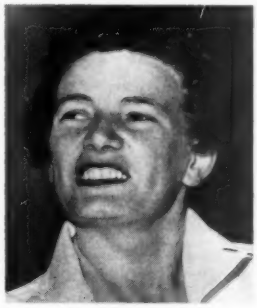
DR. GEORGIANA DVORAK THEOBALD, Associate Professor Emeritus of Ophthalmology at the University of Illinois, participated in a panel of the Ophthalmic Pathology Club, which met in Washington, D.C., April 4.

DR. KATHARINE W. WRIGHT of Chicago, a past president of AMWA, discussed the paper, "Why Some Obese People Are Never Hungry," by Dr. Albert Stunkard on May 13 at the American Psychiatric Association meeting in Atlantic City, N.J. On July 17 Dr. Wright and DR. JUDITH AHLEM of Livermore, Calif., also a past president of AMWA, spoke on "The Physician in the Community" at a program given by the South African Society of Medical Women in Johannesburg.

## AMWA PRESENTS . . .

Dr. Eileen B. McAvoy, who wanted to be a physician ever since she was "old enough to plan past the next high school prom," began her medical career as a nurse at the Danvers State Hospital in Massachusetts. As a registered nurse she served in England, Scotland, and Wales from 1943 through 1944, doing neuropsychiatric nursing. Discharged in Fort Sam Houston, the former Bostonian decided to remain in Texas and attended Texas State College for Women in Denton. She received her B.S. degree cum laude and in 1952 her degree in medicine, also cum laude, from Baylor University College of Medicine. She was an intern at the U.S. Army Hospital in Waltham, Mass.—the first woman to intern with the U.S. Army Medical Corps.

She took her residency in internal medicine at Walter Reed Army Hospital and afterward opened her practice in Albany, La. Then Dr.



McAvoy moved to Texas where she was a staff member on the geriatrics service at the Big Spring State Hospital. She recently resigned to devote full attention to a private clinic in Big Spring. Her move to Texas was also motivated by an opportunity to study hypnosis under Dr. Preston Harrison. " 'Enjoyed and employed' from a spectator angle only," Dr. McAvoy does not use hypnosis in her practice, nor is she "really sold on its psychiatric application, on a wide-scale basis, at least."

Dr. McAvoy plays golf as often as she can, and shoots in the low 90's. She is especially fond of ballet and the dramatic arts and has a large collection of records of rhetoric, ranging from seventeenth century metaphysical poetry to T. S. Eliot's "The Cocktail Party." Perhaps less rhetorical but no less fascinating is Hilda, Dr. McAvoy's dachshund, who is one year old and has an important place in the household.

# MEMORIAL TO LOUISE PEARCE, M.D. (1885-1959)

Dr. Louise Pearce, who retired in 1951 after 39 years of service, died in New York Hospital on Aug. 9, 1959. A former president of the Woman's Medical College of Pennsylvania and associate member of the Rockefeller Institute for Medical Research, she will long be remembered for her many years of dedicated service as scientist, administrator, educator, and world citizen.

Born in Winchester, Mass., she was graduated from Stanford University in California and studied in Boston for two years. She then attended Johns Hopkins University from which she received her medical degree in 1912. After a year as house officer at the Hopkins Hospital, she joined the staff of the Rockefeller Institute in 1913 and became the first woman to be appointed as assistant to Dr. Simon Flexner, the first director of the Institute. She worked with Dr. Wade Hampton Brown and together they developed Tryparsamide, a drug that cured animals infected with trypanosoma, a parasitic protozoan causing sleeping sickness.

After six years of experimentation under laboratory conditions, Dr. Pearce was sent by the Institute to the Belgian Congo to test Tryparsamide on natives suffering from the disease. There she labored with the once hopelessly ill natives until she won the battle against "sleeping sickness"—trypanosomiasis. In recognition of her success in Africa, she received the Order of the Crown of Belgium. Her monograph on "The Treatment of Human Trypanosomiasis" was published by the Institute.

It was with Dr. Brown that the Brown-Pearce carcinoma in rabbits, a transplantable tumor, was discovered, which after 40 years is still among the most widely studied of animal carcinomas. Her work on experimental syphilis and her investigations on constitutional and environmental factors in resistance and susceptibility to disease are classics in their fields.

In 1931 and 1932 Dr. Pearce was visiting professor of medicine at Peiping Union Medical College in China. In 1941 she became a member of the Board of Corporators of the Woman's Medical College of Pennsylvania and in 1946 its president. As president she stimulated the faculty and students with the wealth of her experience in medicine and science, and with her wide acquaintance with scientists and physicians.

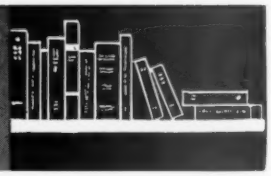
In 1951, the year of her retirement, she was the recipient of the Elizabeth Blackwell award of the New York Infirmary; in 1952 she received an honorary degree from WMC; and 34 years after her work on the cure of sleeping sickness King Baudouin of Belgium made her an officer of the Royal Order of the Lion and awarded her the King Leopold II prize of $10,000.

Dr. Pearce held honorary degrees from Wilson College, Bucknell University, Skidmore College, and Beaver College. She was a member of Phi Beta Kappa and Sigma Xi and served with the National Research Council, Princeton Hospital, the Harvey Society, and the American Society of Experimental Pathologists. As director of the American Association of University Women and one of the leaders in international policies, she had an especial interest in the foreign fellowships granted by the Association. Her influence in the advancement of women in professional and educational fields was felt by many groups, including AMWA, which she served as an honorary member of its journal's Editorial Board.

Dr. Pearce made her home with the late Dr. Josephine Baker, onetime Assistant Commissioner of Health of New York City, and the eminent novelist Miss I. A. R. Wylie at Trevenna Farm, Skillman, N.J., near Princeton. Her home was a most delightful and interesting place to live and study. Her shelves were crowded with many old editions of medical treasures, the latest scientific literature, and the latest works on international questions. She had a wonderful collection of Chinese carvings and porcelains. She entertained friends from all over the world; her wide interests and delightful humor made her a most charming hostess.

*—Frieda Baumann, M.D.*

# Book Notices



Editor's Note: These reviews represent the individual opinions of the reviewers and not necessarily those of the members of the Editorial Board of THE JOURNAL.

SYMPOSIUM ON GLAUCOMA. Transactions of New Orleans Academy of Ophthalmology, 1957. Edited by William B. Clark, M.D., F.A.C.S., Diplomate, American Board of Ophthalmology and Professor of Clinical Ophthalmology, Tulane University School of Medicine, New Orleans, and Joe M. Carmichael, M.S.J., Associate Editor. Pp. 314, with 99 figures, including 2 in color. Price $13.50. The C. V. Mosby Company, St. Louis, 1959.

This informative, interesting, and very worth-while book is of particular importance since glaucoma is a major problem in medicine today.

The monograph includes 22 chapters by contributors who are experts in their fields, which embrace histology, anatomy, pathology, and biochemistry in relation to glaucoma. The newest diagnostic and therapeutic procedures, both medical and surgical, are thoroughly discussed.

Of particular interest is the last chapter of round-table discussions, wherein these outstanding authorities discuss the various problems of everyday ophthalmologic practice, expressing varied points of view, which results in a broad spectrum of information.

*—Berta Drapkin Rados, M.D.*

PSYCHIATRY IN THE MEDICAL SPECIALTIES. By Flanders Dunbar, M.D., Med. Sc.D., Ph.D., Editor Emeritus of *Psychosomatic Medicine*, and Fellow of the New York Academy of Medicine. Pp. 535. Price $12.00. Published in cooperation with Landsberger Medical Books, Inc., by The Blakiston Division of McGraw-Hill Book Company, Inc., New York, 1959.

This book emphasizes the psychosomatic approach in every medical specialty and acquaints the psychiatrist with recent findings in medicine, especially as regards the relationship between endocrinology and psychiatry.

The author uses much new material in emphasizing the changing concept of disease and the approach to therapy. Estimating the patient's capacity for integration involves accurate history-taking with recognition of the problems of differential diagnosis in a person under stress.

In the chapter on "Illness Syndromes: High Fatality," the author reports that accidents account for more than two thirds of the mortality rate and an even higher percentage of years of incapacity before the age of 35. One out of every five children born today will die as the result of an accident.

In "Illness Syndromes: High Disability," the author points out that knowledge of regulators of homeostasis has increased more rapidly than any other field of medicine. The combined effect of nervous and endocrine stimulation may alter the function of any and all organ systems and they themselves are in turn directly involved in situations of stress and anxiety.

"There is general agreement that psychotic disorders represent a profound disturbance in the patient's relation to himself, his mind and his body." Without understanding the feelings of a psychotic patient there can be no approach to therapy. While some cannot be cured, many can be restored to a level of social functioning and even enjoy life.

Problems relating to psychoneurotic disorders are illustrated by interesting case histories. A neurotic individual may need his symptoms to avoid the risk of a psychosis, and here much skill and experience are required to determine the type of therapy.

The author closes with "The Syndrome of Longevity Including Diagnosis: Potential Centenarians." No review can do justice to the comprehensive material included in this book—the bibliography alone contains over 700 references. It certainly should serve to improve communications among specialists in all fields of medical science. It is most highly recommended.

*—Judith Ablem, M.D.*

BREAST CANCER. Second Biennial Louisiana Cancer Conference. Edited by Albert Segaloff, M.D., Director of Endocrine Research, Alton Ochsner Medical Foundation, and Associate Professor of Clinical Medicine, Tulane University School of Medicine, New Orleans. Pp. 255, with 31 tables and 43 figures. Price $5.00. C. V. Mosby Company, St. Louis, 1958.

Essentially this book is a recording of the Louisiana Cancer Conference and, as such, lacks the continuity of a planned text. It is redundant in many areas due to the variety of authors, and, for the reader not engaged in research, seems to contain an overabundance of detailed statistical data.

The book concerns itself primarily with therapy but does contain several papers on basic research of the etiology of breast cancer. All the accepted modalities of treatment are adequately covered.

The book contains a large amount of important material but one must be willing to read it thoroughly. It is probably of more general value to the researcher than to the clinician, but will serve as a reference source for the latter since it is well indexed.

*—Christine E. Haycock, M.D.*

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(Continued from Page 738)

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*(Continued on page 798)*

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(Continued from Page 796)

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**Please report all changes in Branch officers and chairmen as soon as possible to American Medical Women's Association, 1790 Broadway, New York 19, N.Y.**

---

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**Article III. Section 1a. Active Members** "shall be members of a Branch, if any local Branch exists; if not, they may be members-at-large."

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1. Frech, H. C., and Lanier, L. R., Jr.: Am. J. Obst. & Gynec. 74:1146, 1957. 2. Way, W. G., et al.: Virginia M. Month. 85:291, 1958. 3. Heilman, L. D.: To be published.

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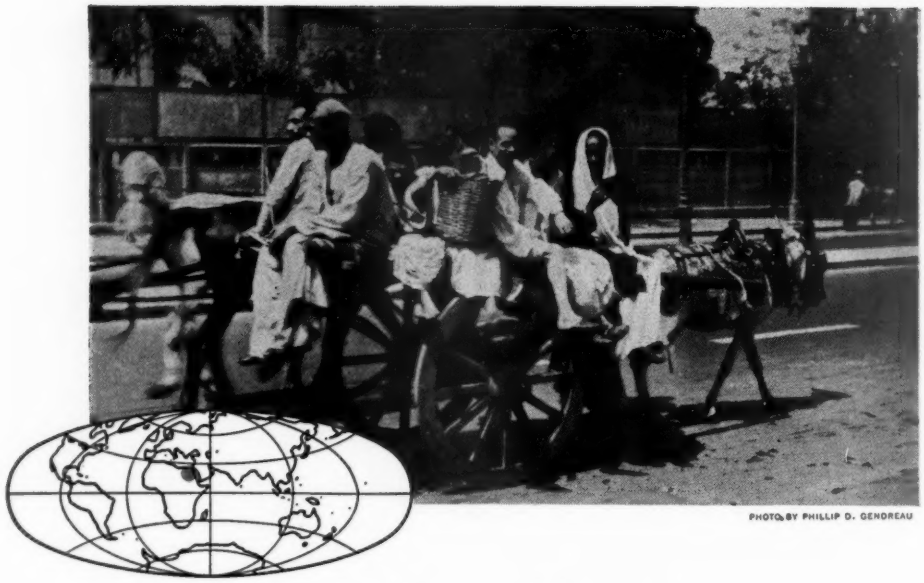

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Musgrave, M. E. and Arm, H. G.: Antibiotic Med. & Clin. Therapy 7:17 (Jan.) 1960.

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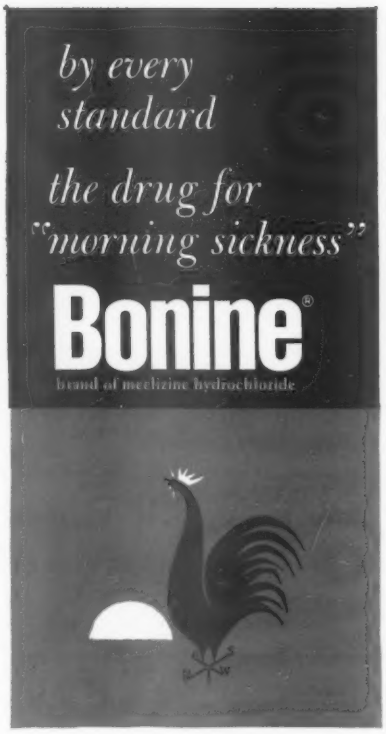


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1. Franklin, M., et al.: Chelate Iron Therapy, J. A. M. A. 166:1685, 1958.
2. A. M. A. Council on Drugs: New and Nonofficial Drugs, J. A. M. A. 171:891, 1959.
3. A. M. A. Committee on Toxicology: Accidental Iron Poisoning in Children J. A. M. A. 170:676, 1959


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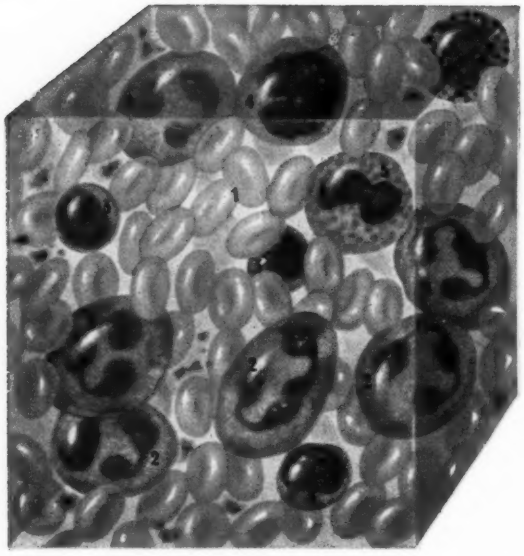

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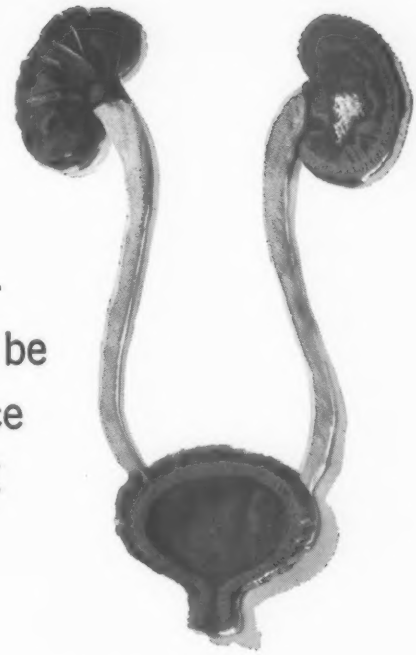

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REFERENCES: 1 Campbell, M. F.: Principles of Urology, Philadelphia, W. B. Saunders Co., 1957. 2. Colby, F. H.: Essential Urology, Baltimore, The Williams & Wilkins Co., 1953.

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